A WINDOW OPEN ON THE WORLD

The UNESCO Courier

1957
GUAR. R. R. 4

BRUSSELS 1958

The Atomium: Symbol of a peaceful world

JULY 1957
(10th year)

Price: 9d. (U. K.)
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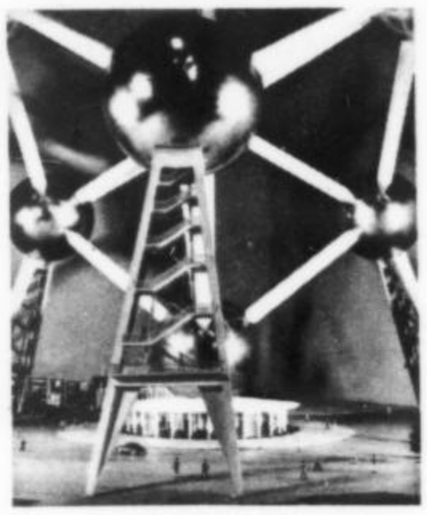
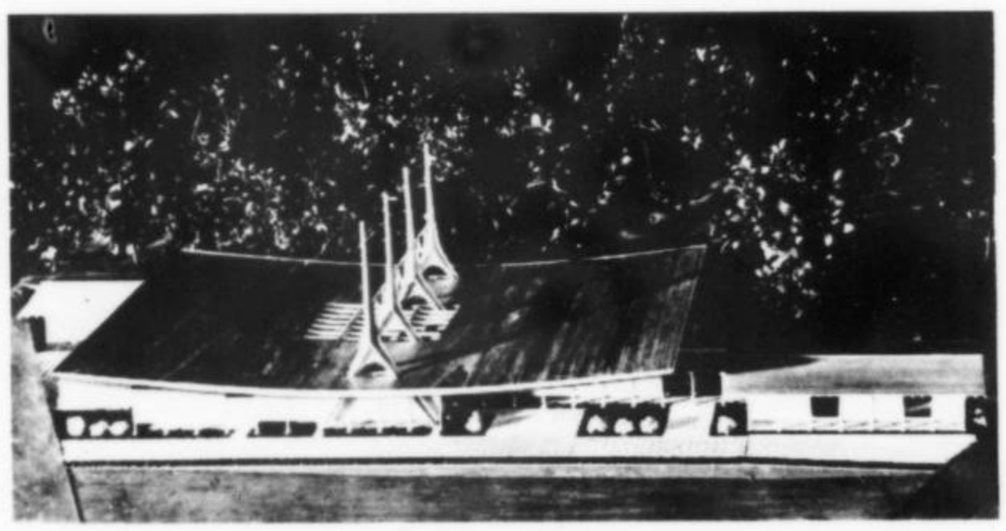
COVER PHOTO

Giant "Atomium," 360-foot steel-and-light-alloy structure, at World's Fair, Brussels. Nine spheres represent arrangement of atoms in an elementary crystal of metal. (See pages 6-7)



Bold designs in glass steel and perspex

Pavilions built by more than 50 nations and several international organizations are now rising on every side in Heysel Park, Brussels, for the 1958 International Exhibition. Bold and advanced designs and revolutionary structural techniques reflect each country's desire to make architectural history. Photos on this page show models of six of the spectacular national pavilions and (opposite page) four striking buildings out of the forty or so forming the Belgian Section of the Exhibition.



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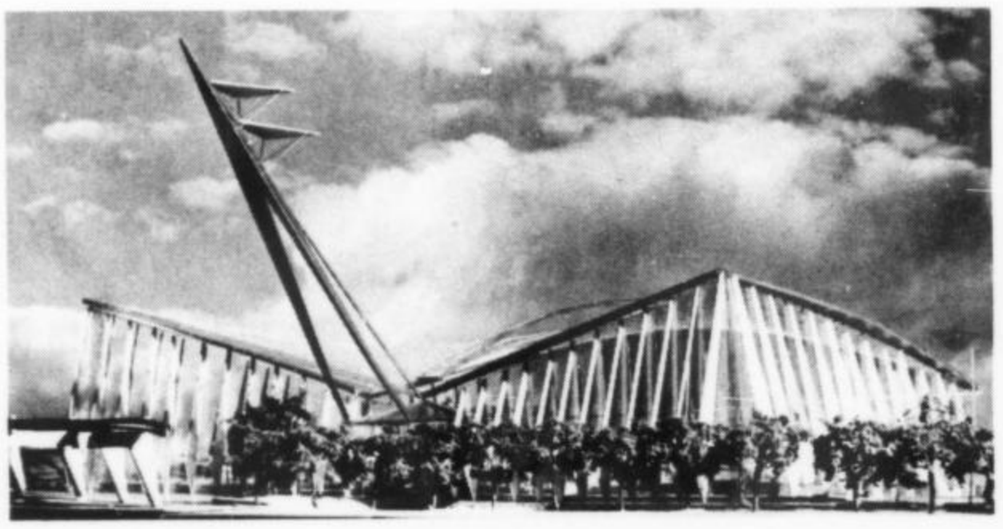

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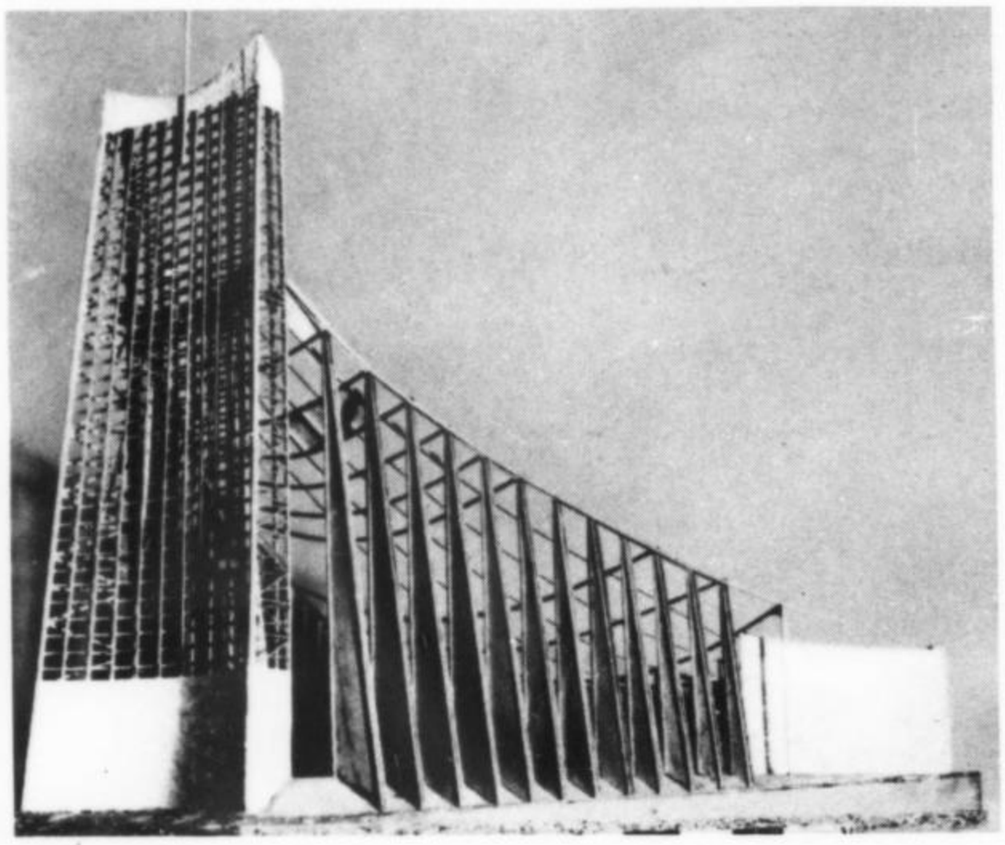

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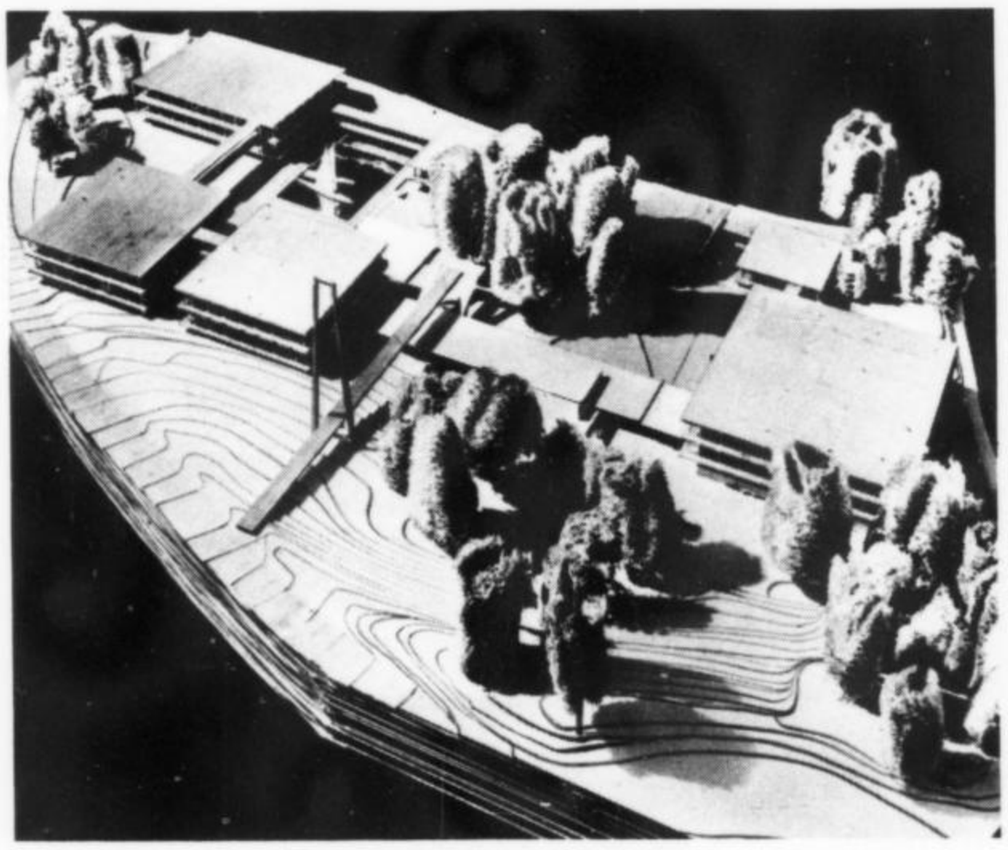
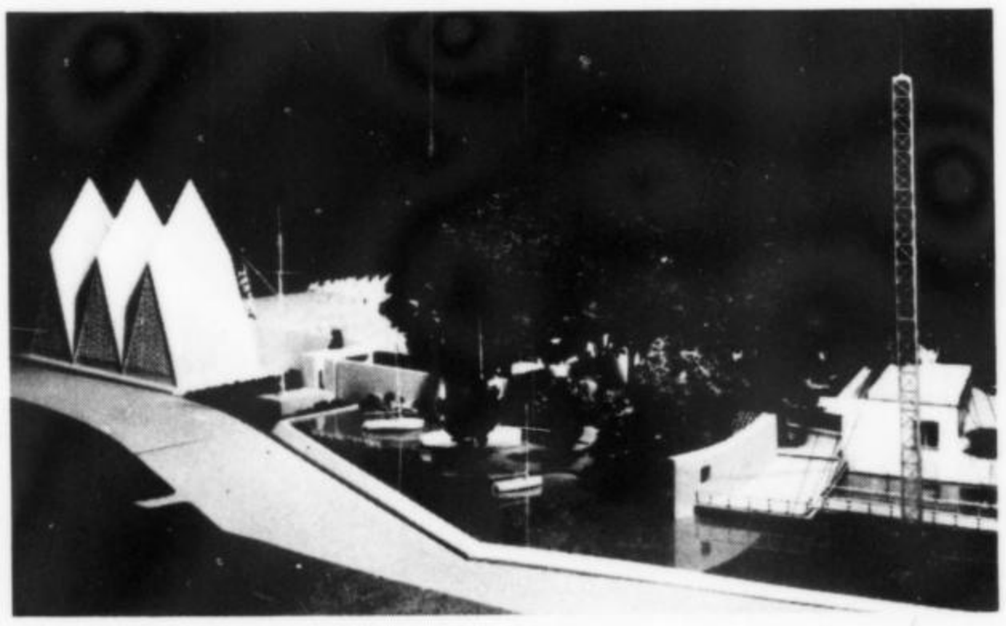
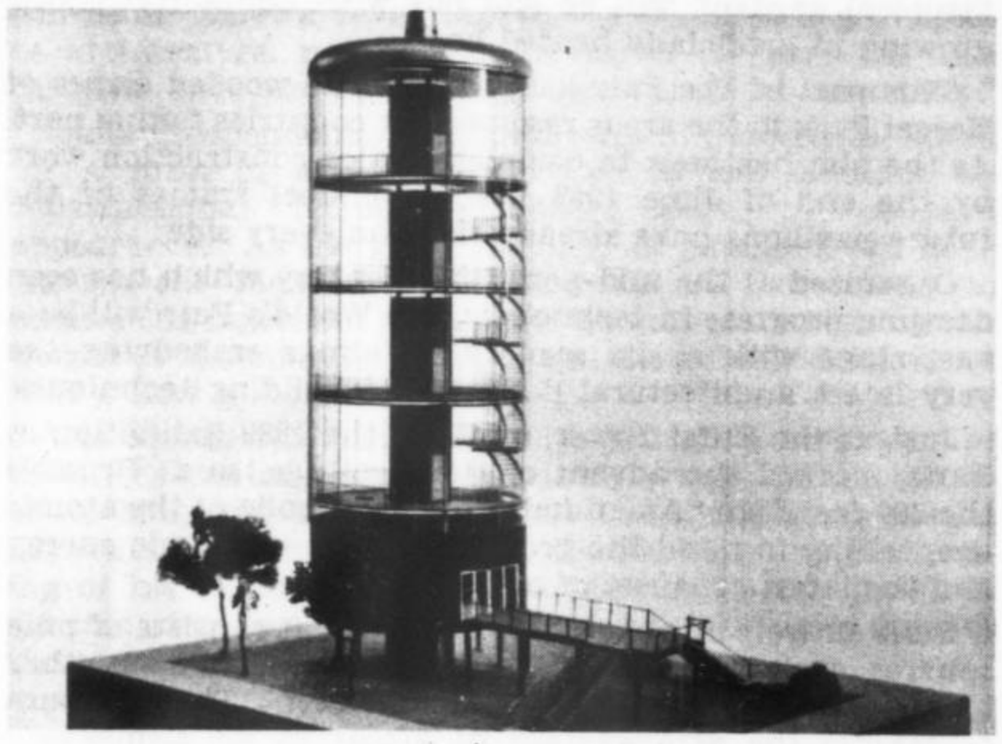


FEDERAL REPUBLIC OF GERMANY

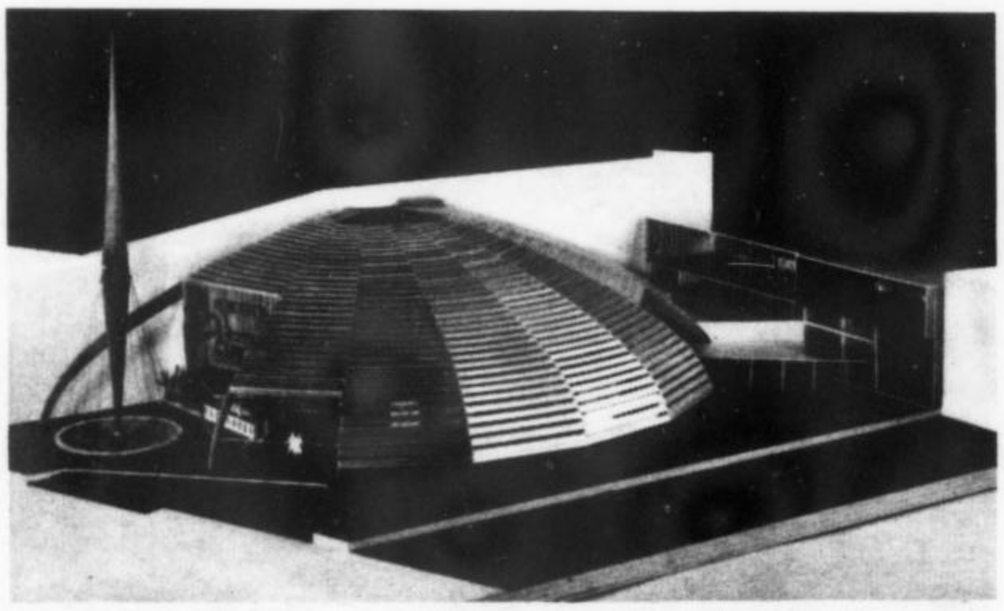
SWITZERLAND



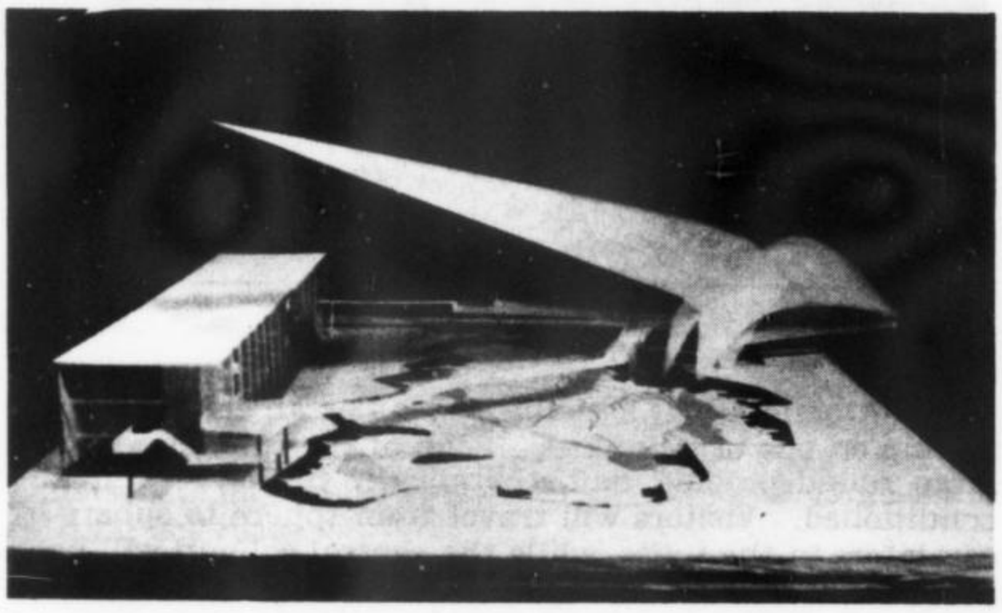
GREAT BRITAIN



TOWER OF ELECTRONICS



TIMBER INDUSTRY



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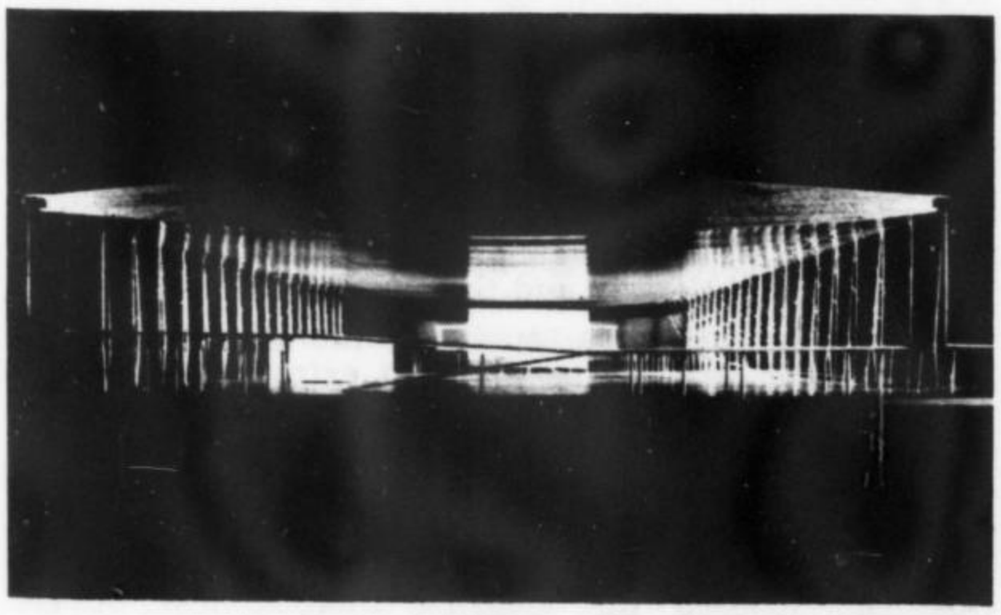

TRANSPORTS PAVILION

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JULY 1957 — 10th YEAR

No 7

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BRUSSELS 1958

'BALANCE SHEET FOR A MORE HUMAN WORLD'

by D. de Wouters d'Oplinter

NEXT year Brussels will become a world in miniature as Belgium welcomes some 50 nations and seven international and supra-national organizations to the first World's Fair of the atomic era as well as the millions of people (an estimated thirty-five million, some 60% from abroad) who are expected to visit this exhibition.

Three years ago Belgium invited all the nations to participate in what it described as "The greatest world event of 1958", and declared that the World's Fair—the biggest since the one New York put on in 1939—would be placed under the sign of Humanism.

The fact that some 50 countries and seven international organizations (the U.N. and its Specialized Agencies, the Organization for European Economic Co-operation, the Council of Europe, Benelux, the Customs Co-operation Council, the Red Cross and a supra-national organization: the European Coal and Steel Community) are preparing to take part fully demonstrates the interest the entire world is showing in this gigantic stocktaking of the material and spiritual wealth of mankind.

All the international bodies will be grouped together in a special section which will include a "Palace of World Co-operation". Here, the great problems of our time will be evoked: the world and social evolution, the increasing tempo of technical development together with the greater needs of an ever-expanding population. The Brussels Exhibition, as a whole, can really be said to centre on these three main themes.

On a site covering some 500 acres in Heysel Park, about four and a half miles from the centre of Brussels, a veritable town is rising today. About one-third of the area is set aside for Belgium, a similar space is taken up by foreign countries and the rest is divided between the international organizations, the Belgian Congo and Ruanda Urundi, the Amusement Park, and a folklore section in a quaint village, standing amid the modern pavilions in glass, steel and perspex, and known as "Belgium in 1900".

'Hotbeds' of tropical plants

THE 40 or so large pavilions in the Belgian section will not only offer an overall view of Belgian economic and industrial life, but will embrace scientific, social, intellectual, religious and many other fields. Furthermore, the participation of the Belgian provinces with exhibitions like Antwerp's "The Boat, Key to the World", and Ghent's exhibit dedicated to "The Communes", will bring out the great diversity existing between the various regions.

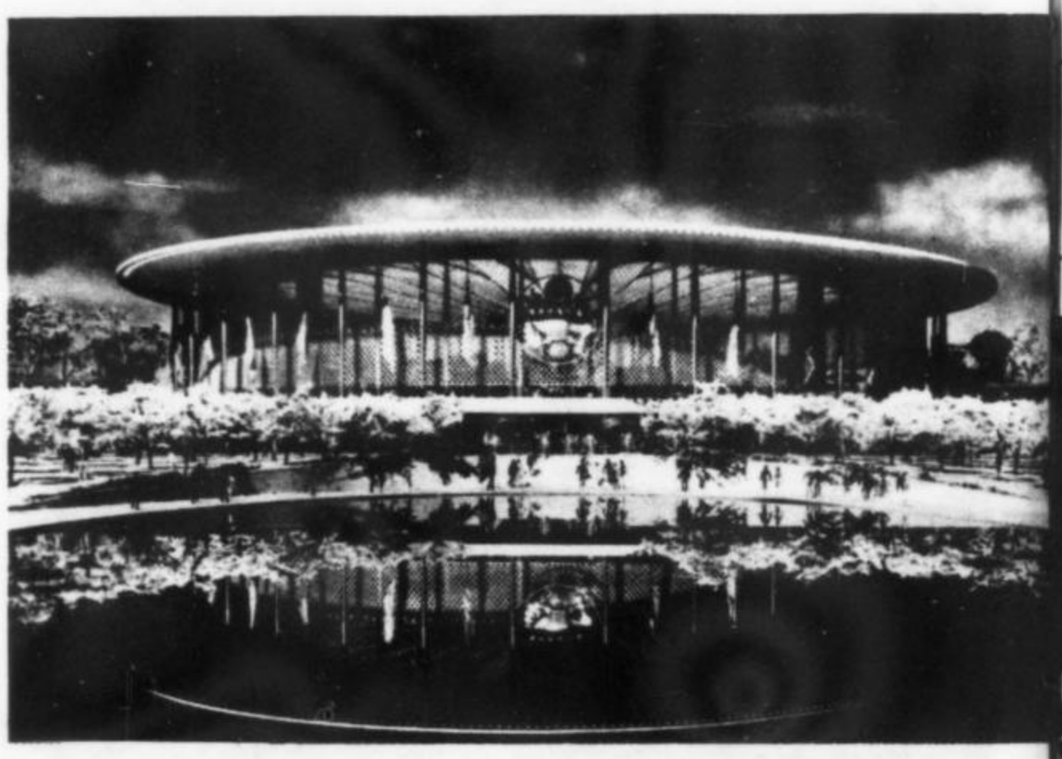
Outside this section an area of some 20 acres will be devoted to the Belgian Congo and Ruanda Urundi, taking as its theme "Fifty years of social, economic and religious work in the Congo". Below its seven large pavilions a "tropical garden" will be laid out with Equatorial plants growing in artificially heated beds.

This part of the Fair looks across the wooded slopes of Heysel Park to the areas reserved for countries taking part. As the aim has been to complete major construction work by the end of June 1957 the great steel frames of the future pavilions have already risen on every side.

Organized at the mid-point in a century which has seen dazzling progress in technology, the World's Fair will be a vast stage with as its scenery, buildings embodying the very latest architectural designs and building techniques.

Just as the Eiffel Tower, built for the 1889 Exhibition in Paris, marked the advent of the steel age, so at Brussels the 360 feet high "Atomium" will be symbolic of the atomic age, calling to mind the prodigious force of atomic energy and the latest conquest of man over matter.

Built entirely of aluminium-clad steel, it consists of nine spheres, each 59 feet in diameter connected to each other by tubular structures 10 feet in diameter. The structure represents the arrangement of atoms in an elementary crystal of metal.



★ **UNITED STATES PAVILION** at Brussels Fair, 340 feet in diameter and 95 feet high, will be world's largest circular building without any interior columns. One of the remarkable features of this building is its "bicycle wheel" suspension roof of plastic attached to an inner metallic rim with high tension steel cables.

The Atomium will actually appear as an immense cube resting on one of its angles. Each of the spheres will be a large sound-proofed hall, thermically insulated and air-conditioned. Visitors will travel from sphere to sphere by escalators in the tubes, while the central column will have the fastest lift in Europe, whisking sightseers to the topmost sphere in less than 20 seconds, to a restaurant where they can enjoy a meal along with a panoramic view of the fair and the city of Brussels beyond.

The lower spheres will be exhibition halls for displaying the results of research into the peaceful uses of atomic energy in different countries. One will be occupied by the Soviet Union, among whose exhibits will be the small nuclear power station displayed at Geneva in 1955. Other countries displaying the fruits of their atomic research at the Fair will include England, France, the Federal Republic of Germany, Norway and the United States.

Designed by the Belgian engineer, André Waterkeyn, the Atomium will certainly be the most extraordinary of the many architectural achievements of striking grandeur which will rise into the sky from the grounds of the Fair.

After studying the plans which the architects of each of the national pavilions had submitted to the Commissioner-General of the World's Fair, the Chief Architect, Mr. Van Goethem, stressed the amazing thoroughness of the research that had gone into them, and declared: "This

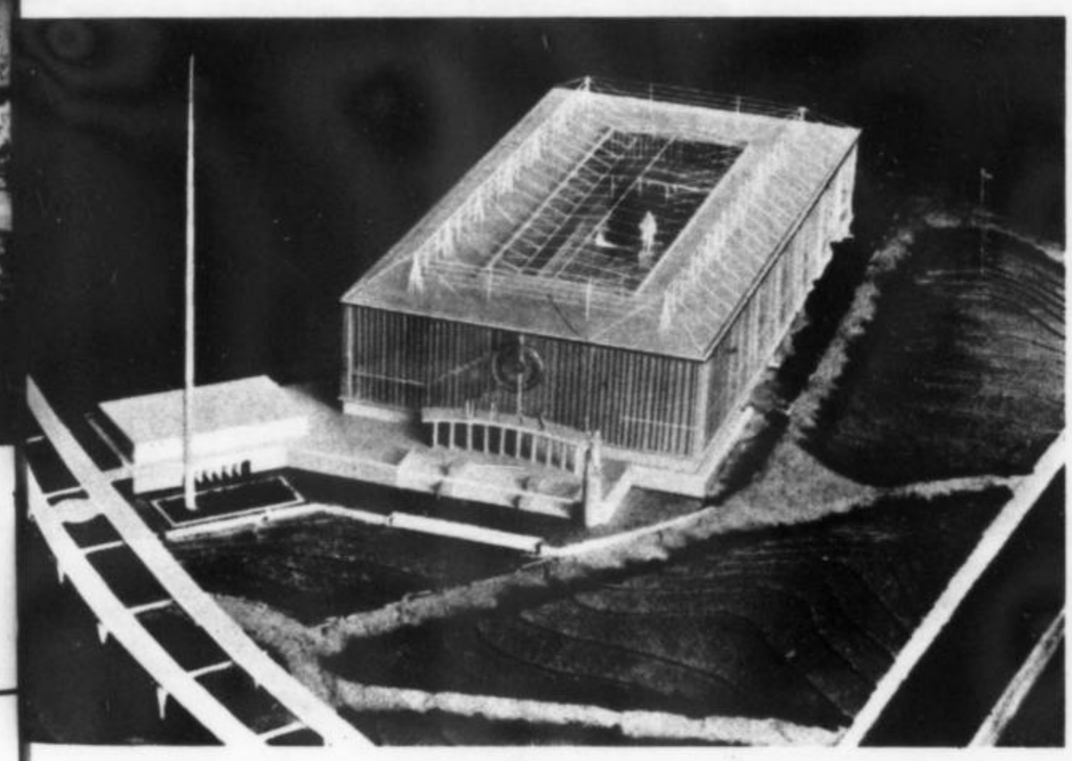
will bring about a revolution in the traditional principles of architecture, not only with regard to form but also through the use of entirely new kinds of materials."

Quite independently, the architects had nearly all opted for a form of architecture whose impact is made by constructional techniques rather than by outward appearance. As the great majority of pavilions will have transparent façades, the visitor will be more likely to admire the ingenuity of the exposed armature bearing the weight of the building, rather than the actual walls, whose role is now a secondary one.

The aim of the Exhibition is to provide a panorama of twentieth-century human activities; it is, in fact, dedicated to Man and his aspirations. Though Man's material activities often enough provide the key to an understanding of his character, cultural achievements are obviously the truest reflection of his inner urges, his aims and his individuality.

For six months, therefore, from April to October 1958, the Exhibition will be the scene of a continuous series of international cultural events in different fields—literature, theatre, films, opera, music, choreography, and others.

U.S.S.R. SECTION of the Fair is planned around a gigantic rectangular parthenon in whose centre will stand a statue of Lenin. Pavilion will be built in the U.S.S.R. and transported in sections (1,500 tons of steel structure, 200 tons of aluminium, 16,000 sq. metres of mirrors) to Brussels. Plans also include a 1500-seat theatre. ★



To honour each nation, "National Days" have been set aside when individual countries will organize large-scale cultural activities.

The Soviet Union will send to Brussels the famous *corps de ballet* from Moscow. From the United States will come theatre companies and orchestras. The *Comedie-Française* will travel from Paris, and the leading London symphony orchestras will also be present. In short, every country will be sending of its best.

Apart from these national activities, the Belgian Commissioner-General will himself be organizing some large-scale international cultural gatherings. For instance, a World Film Festival will be held at Brussels from April 21 to June 13, 1958. It will include world-wide competitions for experimental films, a "shorts" film festival, and also one for feature-films. Another film event, to be held from October 12 to 18, will be a world competition for the best film of all times.

The Commissioner-General's programme also includes an international gathering of young people's orchestras (July 13-21), a university theatre week (August 2-9), a competition in electronic music (August 15-19) and a world festival of records (October 5-11).

Many other activities are being arranged but their dates have not yet been fixed. Chief among them is a world festival of choreography, open to all Belgians or nationals of other countries taking part in the Fair. There will also be a series of international dramatic performances, arranged with the help of the Theatre of the Nations.

Another type of cultural activity at the Exhibition will be a series of lectures, for which the Commissioner-General has invited speakers of world repute.

Lastly, as the Fair seeks to encourage the most extensive contacts between men and women from all over the world, it will be an assembly point for congresses.

In order to be approved by the special selection committee, such congresses must be planned as study groups to deal, so far as possible, with some social problem. Their opening meetings will be held in the Exhibition grounds, and their subsequent meetings in large buildings either in Brussels itself or in other Belgian cities. It is hoped that they will devote at least one meeting to a discussion of the Exhibition's theme.

For all these activities, whether purely intellectual or purely artistic, a special theatre with a seating capacity of 2,000 is being built in the grounds of the Fair.

In the message he sent to all the countries invited to take part in the Exhibition, the Commissioner-General wrote: "the harnessing of the world's sources of energy and other material resources for man's use means increasing reliance on science. We are planning to build a large International Palace of Science, because we feel that it is only on an international scale that science can expand and bear fruit as it should."

This Palace will be divided into four sections, corresponding to the fundamental bases of modern science; the Atom (atomic physics), the Molecule (chemistry), the Crystal (solid state physics) and the Living Cell (biology), and it will give the visitor—notably through the medium of the cinema—a general view of science's development.

The fifteen countries which have agreed to take part in this particular enterprise will not install any national stand in the Palace, but will contribute to a general programme of a purely scientific nature, so planned as to capture the interest of the average visitor. It will be possible for those taking part to indicate on the apparatus they exhibit, the name of the country of origin.

An international science committee, consisting of the world's leading scientists, met recently in Brussels and drew up plans for the presentation of scientific research and apparatus.

Art panorama: prehistory to present

THE same international principles are being adopted for the Palace of Fine Arts. An international committee, similar to the science committee, has been set up. Works of art will not be exhibited in national sections, but will be arranged according to the schools to which they belong or by which they have been influenced.

Two international exhibitions, each lasting three months, will be held in this Palace. The first (from April 18 to July 21) will show contemporary painting and sculpture covering the first half of the 20th century, and the second (August 8 to November 2) will be entitled "Man and Art" (world masterpieces from the Stone Age to the present day). Many countries have already planned to send their rarest collections to Belgium.

The Brussels Exhibition will be the largest international gathering organized since the end of the war, and Belgium is therefore sparing no efforts to make it a true reflection of Humanism in 1958. But Belgium will not be alone in having helped, by this enterprise, to bring about greater understanding between all men. Every country officially represented will have made its contribution. They are all convinced that the ideal is worth a world-wide effort, made without restriction or reservation.

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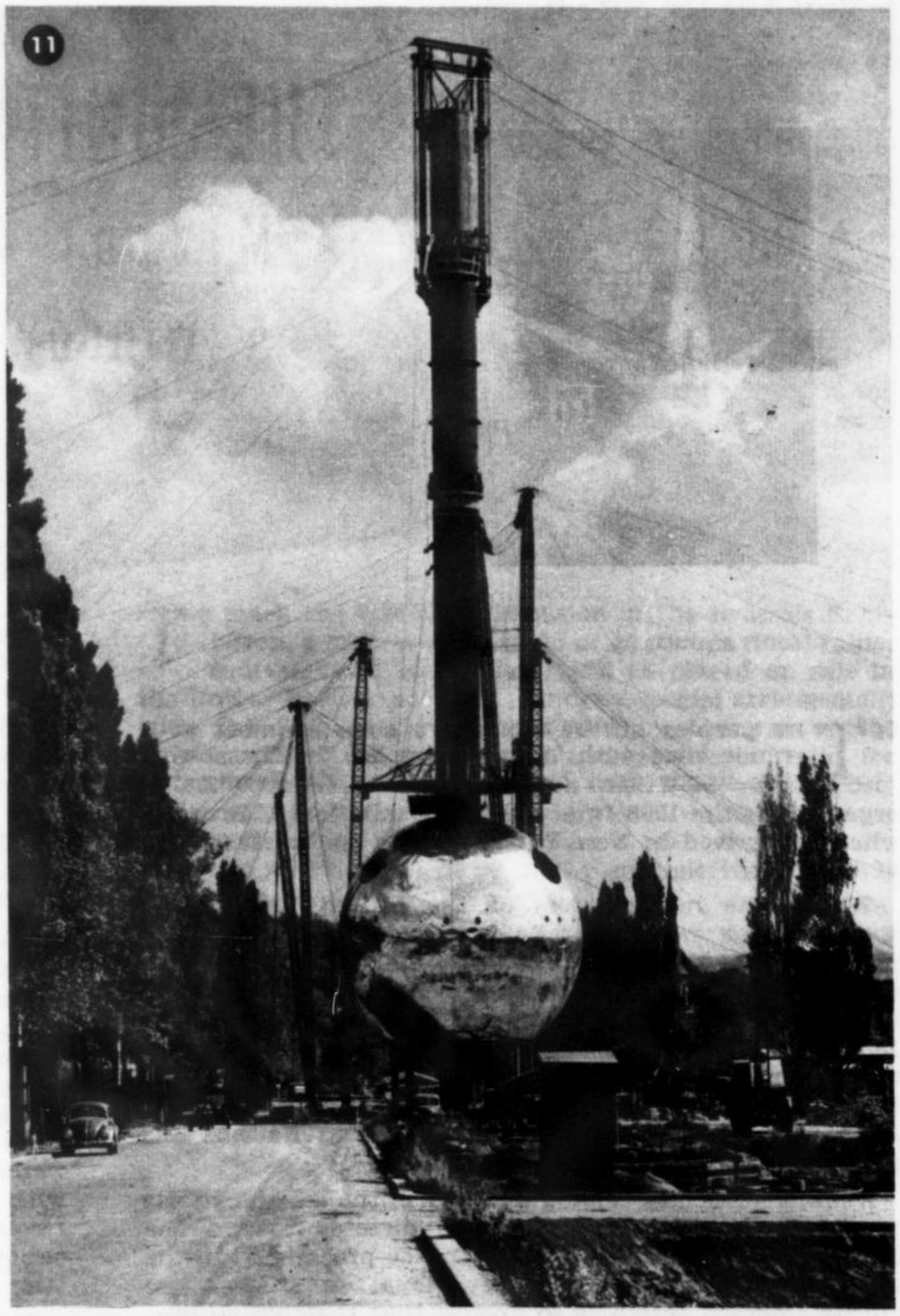
THE ATOMIUM

Focal point for millions of visitors

Easily the most spectacular and unusual piece of architecture at the World's Fair in Brussels will be the Atomium, consisting of nine spheres representing the arrangement of atoms in an elementary crystal of metal. Situated in the heart of the Fair, the Atomium will be the centre of attraction for the 35 million visitors who are expected there. This gigantic metallic construction rising to a height of 360 feet will appear as an immense cube resting on one of its angles, with eight spheres marking the extremities of the cube and one in the centre. The spheres, each 59 feet in diameter, will be connected to each other by tubes 10 feet in diameter equipped with escalators or travelling belts. Every part of the remarkable structure will be open to the public. The Atomium is symbolic of the importance to the future of the world of knowledge relating to the structure of matter and the peaceful uses of atomic energy. Thus, some of its spheres —large sound-proofed, thermically-insulated and air-conditioned halls—will be used to display the peaceful uses of the atom. A fast lift will take visitors up the central column to the top sphere in 25 seconds. A special technical exhibition will be housed in a circular pavilion built underneath the Atomium's base sphere. Facings of the spheres will be in light alloy giving a brilliant appearance. In the daytime the light casing is designed to give off a dazzling reflection of sky, sun and clouds; at night, lights moving around the spheres will imitate the rotation of electrons around the nucleus of the atom.

Photos on these pages show the erection of the base of the Atomium's central axis, a steel cylinder 50 feet high, the first of the spheres taking shape and (last photo) the structure's striking appearance as revealed by scale model.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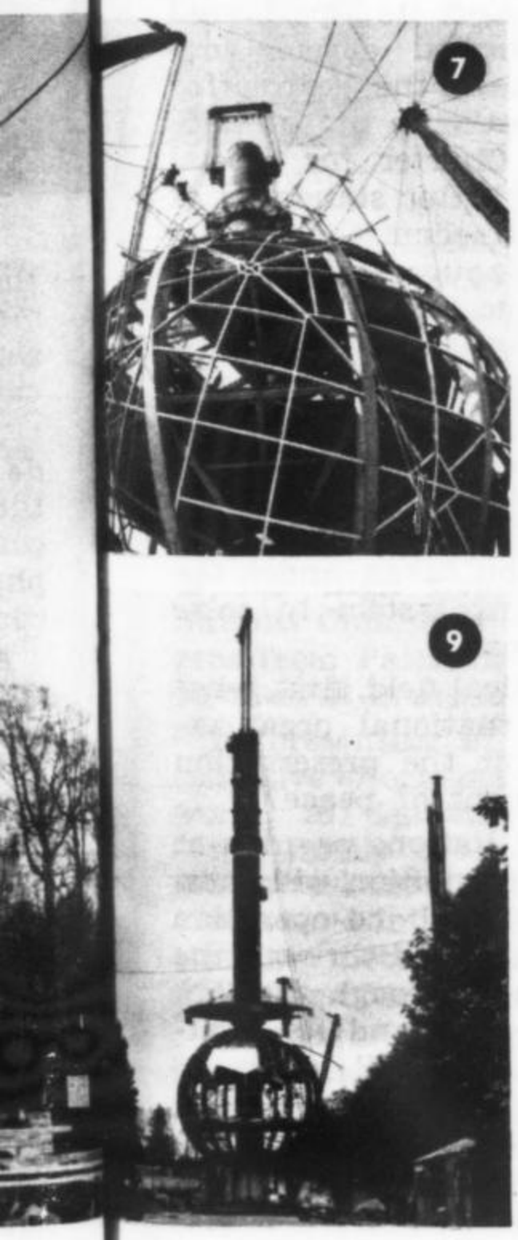
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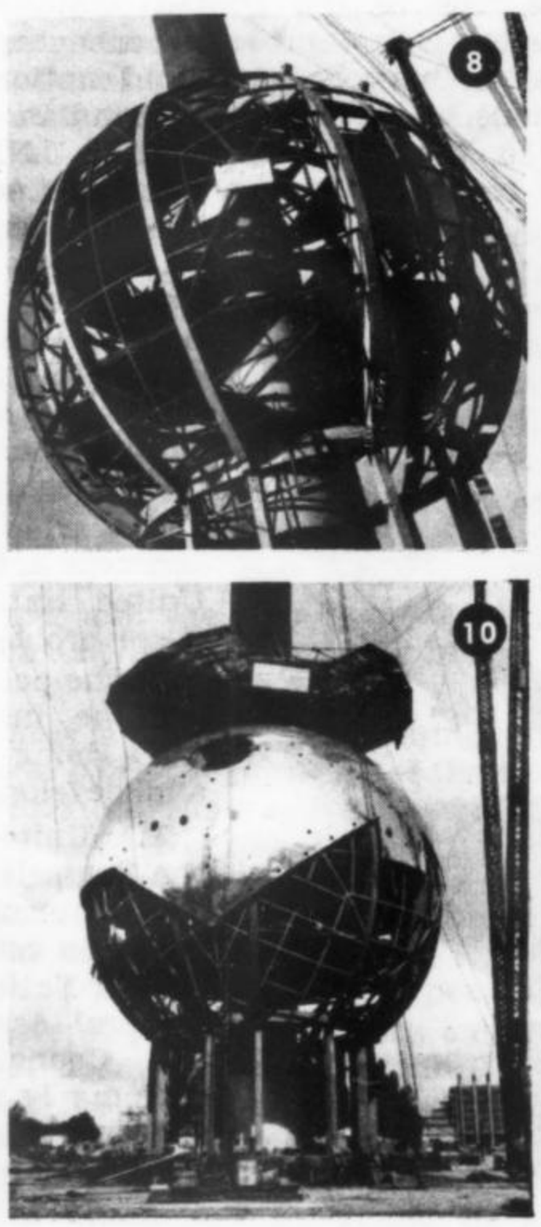
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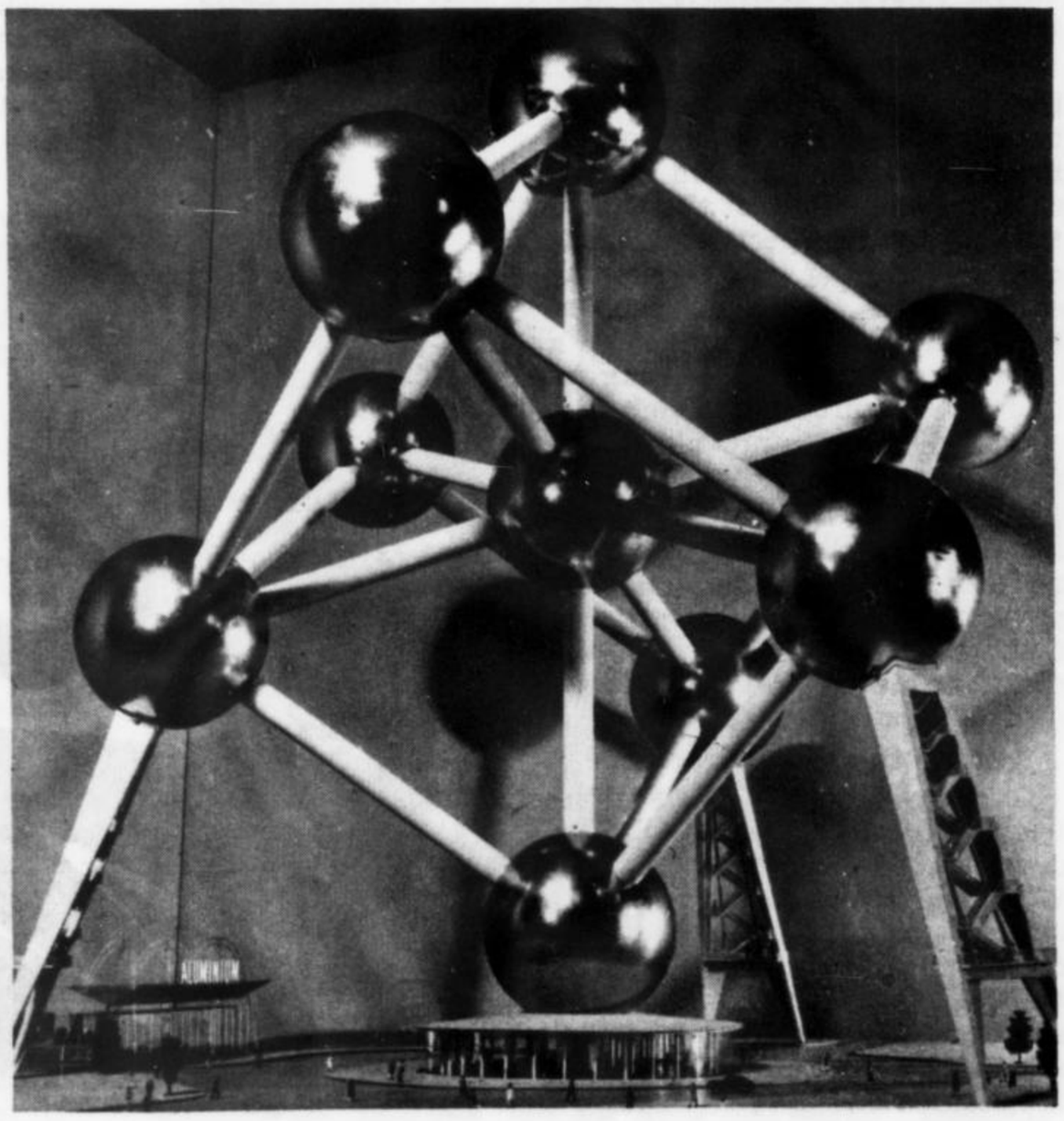

THE UNITED NATIONS PAVILION

★ Mirror of the world at work

★ A window on our planet's problems

(Continued)

by Henri Fast

Commissioner-General, U. N. and Specialized Agencies Section, Brussels Exhibition, 1958.

"THE peoples of the world are soon to meet at a rendezvous with light and peace." These were the words used by Baron Moens de Fernig, the organizer of the 1958 International Exhibition of Brussels, when he arrived in New York to invite the participation of the United Nations.

Within the headquarters of the United Nations the words rang a welcome bell for they echoed one of the major aims of the world organization and one of the fundamental goals of the Specialized Agencies which make up the family of United Nations. Judging that the U.N. family could not be absent from the "Balance Sheet for a more human world" which is the theme of the Brussels Exhibition nor from the spirit of international co-operation that would prevail there, the United Nations has accepted the offer to participate.

A major difficulty existed however. Although the efforts of the United Nations family are directed toward one common goal—the ideal of world peace proclaimed in the separate Charters of its international Agencies—these efforts embrace activities so diverse that their visual presentation is often a complicated task.

It was therefore decided that the whole family of the U.N. should be represented under a common theme, linked both to the central subject of the Brussels Exhibition, and to the co-ordinated action of the United Nations and its Specialized Agencies in fostering and developing co-operation between peoples. For no true solution, except on a truly international level, can be found to the problems which face mankind today and block the road to lasting world peace.

The work of the United Nations and its Specialized Agencies will be presented in a special U.N. pavilion under three sections: first, the challenge; second, the results achieved so far; third, the ultimate goal.

What is this challenge?

In the world of today the tempo of political and technical development is rapidly increasing. With the widening of contacts between peoples, brought about chiefly by modern inventions such as the radio, the cinema and aviation, the benefits of civilization are being spread at a rate undreamed of fifty years ago.

The present rapid tempo, however, is inevitably attended by a thirst for new demands, further accentuated and increased by the world's ever-expanding population (it will be double today's figure by the year 2000) not to speak of certain vital human requirements which we cannot begin to satisfy with our present volume of human productivity.

This situation raises many problems which are both critical and urgent.

The problems relate to every factor conditioning the life of men and the existence of nations. They relate to the preservation of peaceful relations between nations and the promotion of social and economic justice, the establishment of the rule of law between men and between nations. They relate to economic development, to food, health, welfare, education, culture and science. They are linked with jobs and social security, with children's needs, with resources, productivity and consumption, with communications and transport, assistance to less-developed countries, with help when disaster strikes.

The role of the United Nations and its Specialized Agencies is to provoke, encourage and develop co-operation between men and nations in the search for solutions to these problems and in realizing the promise of the U.N. Charter for "social progress and better standards of life in larger freedom." The United Nations family embraces in its concern and interest men and nations the world over and it draws together the support and allegiance of people of all cultures, of all religious and political allegiances.

But what is the action, the concrete action taken under the United Nations system to solve these problems?

In the political field, first, what are the international organizations doing for the preservation and development of peace?

The United Nations pavilion at the Brussels Exhibition will show how international co-operation has been established through the United Nations, through the U.N. General Assembly and its Security Council. It will offer as examples of positive results achieved the ending of the war in Korea, in Kashmir, in Palestine. It will outline the efforts

to secure world disarmament and the judicial procedure for the peaceful settlement of conflicts, successfully applied by the International Court of the Hague.

The U. N. pavilion will also illustrate the problems and efforts connected with the establishment of a true community of nations: economic development, particularly through technical assistance; technological exchanges (including the peaceful uses of atomic energy); the trusteeship system; and the possibilities of advancement given to non-self-governing territories.

A substantial portion of the U.N. pavilion will be devoted to the measures taken to solve two problems of the utmost importance both for the world of today and of tomorrow: the development of the world's resources, and social development. It is here that the predominant role of the Specialized Agencies' activities will be emphasized.

The development of the world's resources concerns the whole of the United Nations family in varying degrees. But certain agencies have a specialized competence in this sphere and their activities are particularly oriented to aspects of the problem.

The development of the world's resources encompasses three different fields. First, communications and transport, dealt with by the International Civil Aviation Organization, the Universal Postal Union, the World Meteorological Organization and the International Telecommunication Union. Then, agriculture, resources of the sea, and forestry, dealt with by the Food and Agriculture Organization and by UNESCO in its broad Arid Lands programme. Finally, industrial development, water resources, electric and hydraulic power production (including problems of financing) are dealt with by several Specialized Agencies, particularly the International Bank for Reconstruction and Development whose investments in dam construction now exceed 300 million dollars.

In the field of social development, the action of the United Nations could be divided, somewhat arbitrarily perhaps, into four categories: Education, culture and science are UNESCO's prime interest; health and welfare the World Health Organization's; labour and social security the International Labour Organization's; and community development with which both the United Nations and most of the Specialized Agencies are concerned.

Other U.N. agencies are in search of solutions to one or several of the problems indicated above. Thus the International Monetary Fund plays an important part in the stabilization of currency; GATT (General Agreement on Tariffs and Trade) is working to reduce customs barriers; and the new International Atomic Energy Agency will deal with problems of the peaceful uses of atomic energy.

The purely humanitarian aspects of the work of the U.N. family will of course not be overlooked, and the Office of the High Commissioner for Refugees, the United Nations Children's Fund, and the agency for Arab refugees from Palestine will all have their place in the U.N. pavilion at Brussels.

In presenting all these activities—in stressing all the collective efforts made to solve the problems of the modern world, in demonstrating international co-operation in —the family of the United Nations hopes to promote action and the interdependence of all peoples and nations and extend international co-operation and mutual understanding between men ultimately leading to a greater wellbeing of mankind and the safeguarding of peace itself.

Only in an atmosphere of peaceful relations among the peoples and nations of the world can the ideals of the United Nations Charter really be fulfilled. International co-operation can establish that climate which is indispensable if mankind is to achieve the twin goals of moral and material wellbeing which now lie within its grasp.

To demonstrate its activities the U.N. will avail itself of the most varied and ultra-modern techniques for its pavilion. Of course such old stand-bys as the photographic display and panels will not be entirely discarded, but visitors will be able to study a miniature dam in full operation, a large model of the U.N. General Assembly Hall, a special presentation of air traffic control across the North Atlantic, an "Atlas" of the clouds showing how they influence weather forecasts, an unusual representation of the interaction and mutual influence of Oriental and Occidental cultures, as well as a series of other exhibits.

Perhaps one of the most striking exhibits will be the one depicting the vast programme launched by the United Nations, and especially the International Labour Organization, to improve the conditions of the Indians living on the high plateau of the South American Andes.

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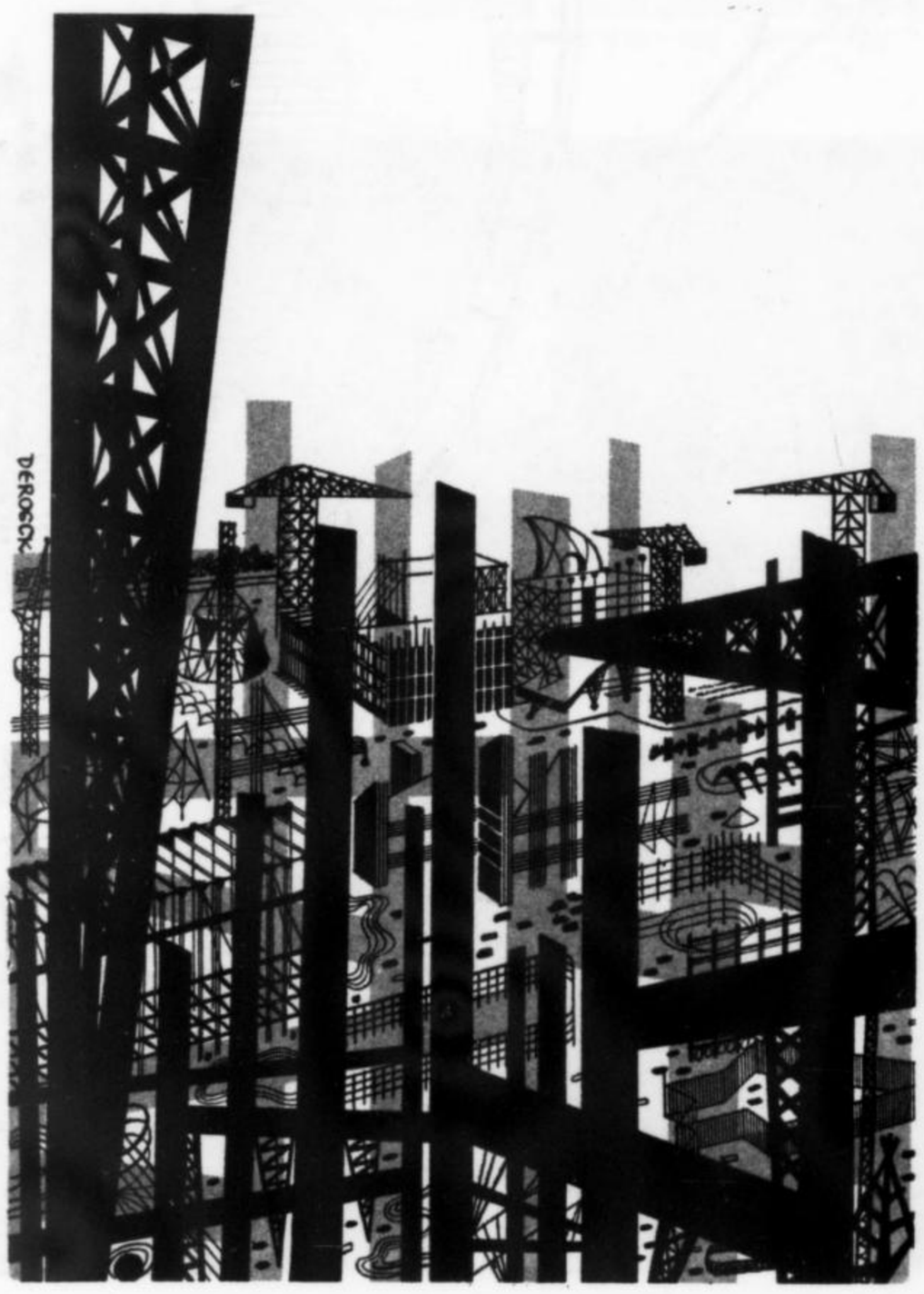
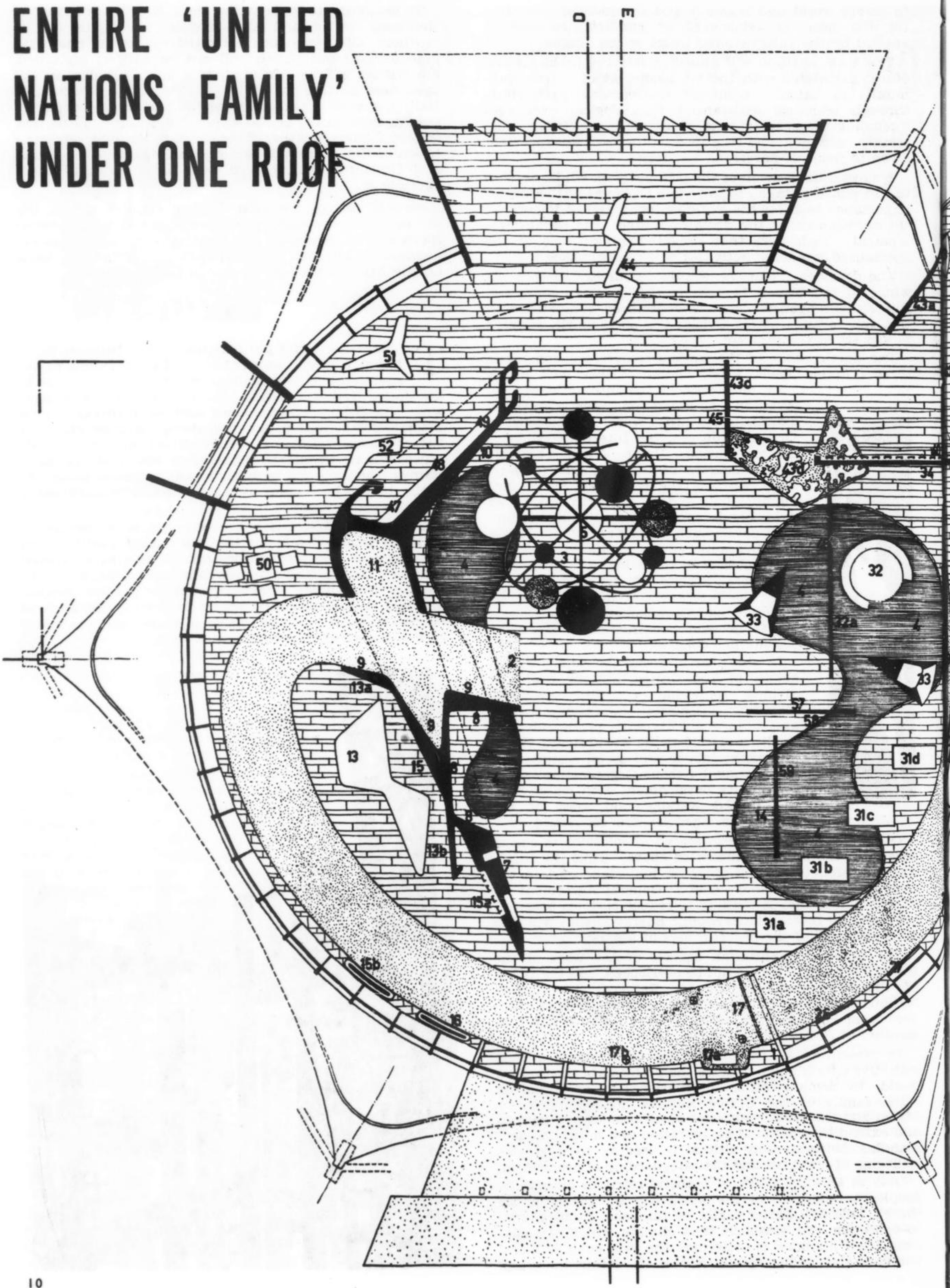
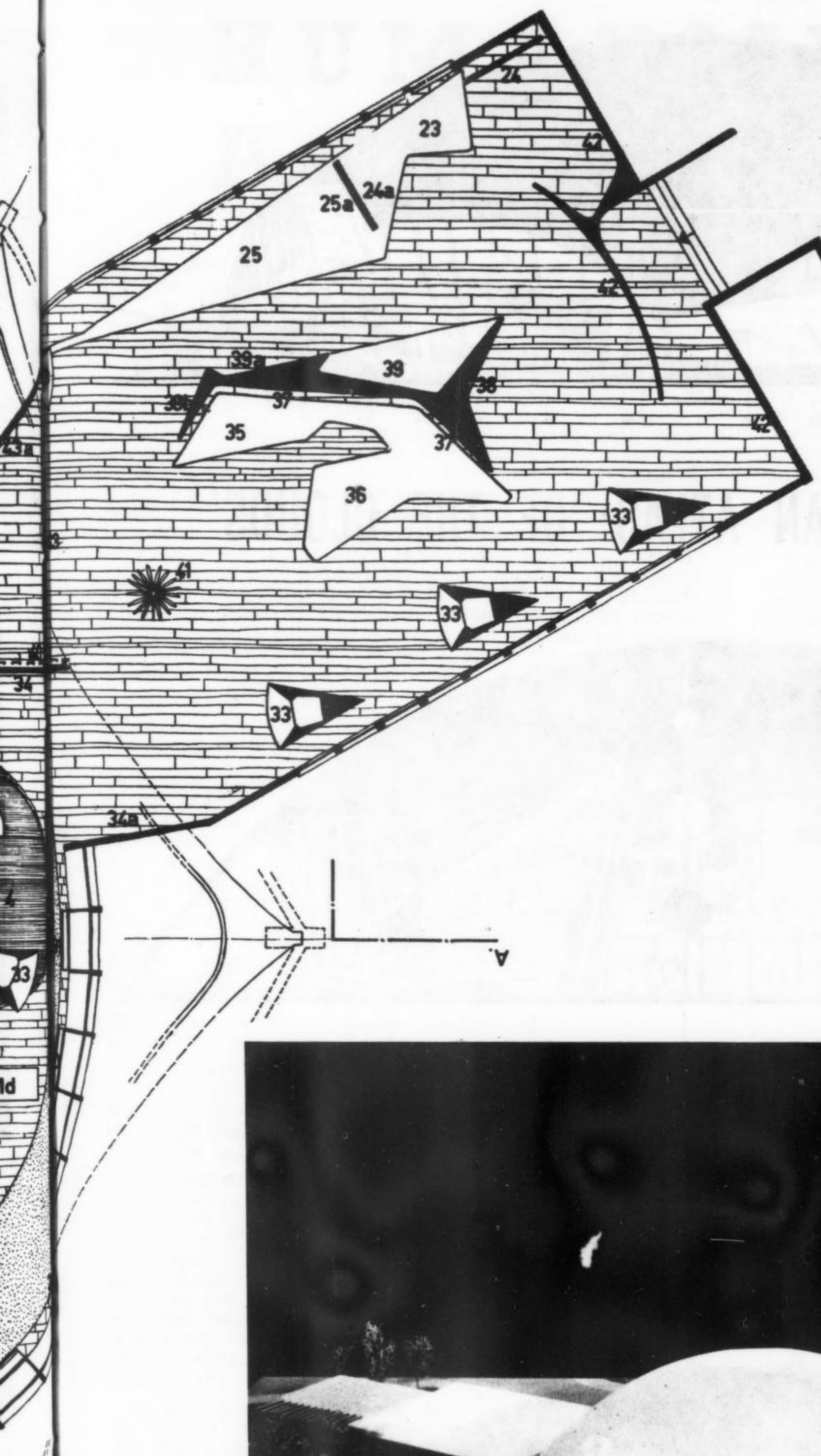
To mark the U.N.'s participation in the Brussels Exhibition, a special series of 15 or 16 stamps (total value: equivalent of two dollars) will be placed on sale in the United Nations pavilion. Under a special arrangement with the Belgian Government and by courtesy of the Belgian postal authorities, the stamps will be valid for letters posted inside the pavilion where an official post-office will be installed. Philatelists interested in these stamps (the issue will be fairly small) will have an opportunity to purchase them by mail probably from February 1958 onwards.

A non-profit association has been set up to handle all material arrangements for the U.N. family pavilion. Its chairman is the former director of the International Monetary Fund, C. Gutt (now Minister of State in the Belgian Government). The president of the Belgian National Commission for UNESCO, Jean Baugniet, and the Belgian delegate to the World Bank, H. Ansiaux, are members of the directorial board.



ENTIRE 'UNITED NATIONS FAMILY' UNDER ONE ROOF





As visitors to the 1958 World's Fair in Brussels enter the 500-acre international city by the "World Gate" they will see, on the far side of the group of buildings erected by international organizations, the pavilion (a giant cupola) which houses the United Nations "Family". Here under one roof they will see how the U.N. and its Specialized Agencies are meeting the challenge of today's world problems.

Plan of pavilion shows (2 to 12) the ramp which runs around half the cupola with (4) ornamental pools.

Three stands (43, 43b and 40) will present Unesco's activities and in addition special emphasis will be given to Unesco's Arid Lands Programme (31a to 31d and 59); its world action for education (41) and its Human Rights Programme (43a).

7, 8, 9 and 11: The United Nations

13 and 15: International Civil Aviation Organization (ICAO)

15b and 16: Universal Postal Union (UPU)

17, 17a and 17b: World Meteorological Organization (WMO), International Telecommunication Union (ITU)

26 to 31: Food and Agriculture Organization (FAO)

32: Model of a dam financed by the International Bank for Reconstruction and Development; International Finance Corporation

34: International Monetary Fund

34a: General Agreement on Tariffs and Trade (GATT)—International Trade Organization (ITO)

33: Technical Assistance, the U. N. Economic Commissions, International Atomic Energy Agency

35, 36, 37: Programme of the High Andean Plateau

42: World Health Organization (WHO)

23, 24, 25 and 33 adjoining: United Nations Children's Fund (UNICEF); Office of the U.N. High Commissioner for Refugees; U.N. Relief and Works Agency for Palestine Refugees in the Near East (UNRWA)

38 and 39: International Labour Org. (ILO)

43c: The United Nations Charter

44: The U.N. Post Office

51: Information Office for the "U.N. Family"

47, 48, 49 and 52: Sales of documents, books and publications concerning the United Nations

All other numbers indicate information panels or decorative motifs such as the atomic symbol (3 and 5).

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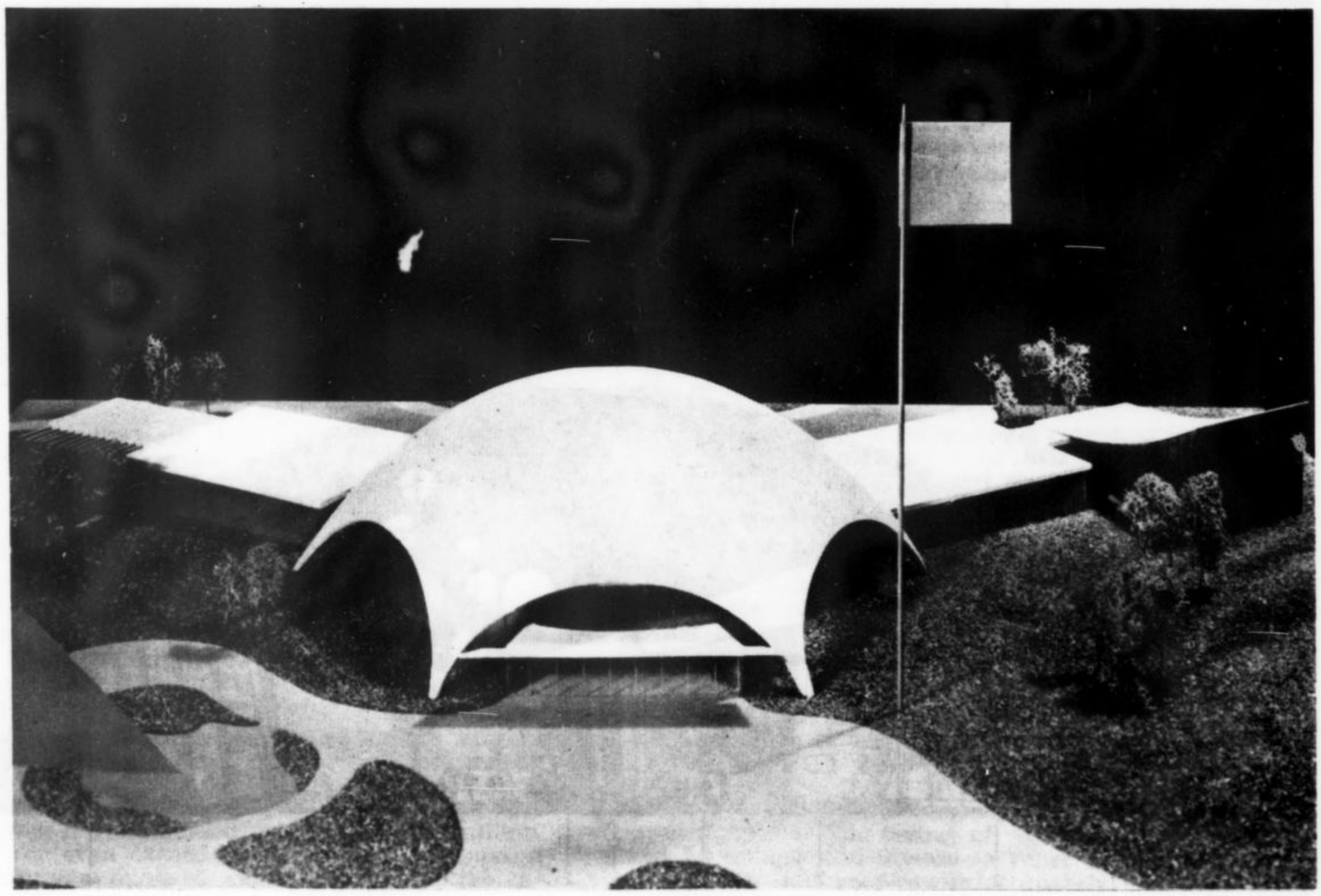
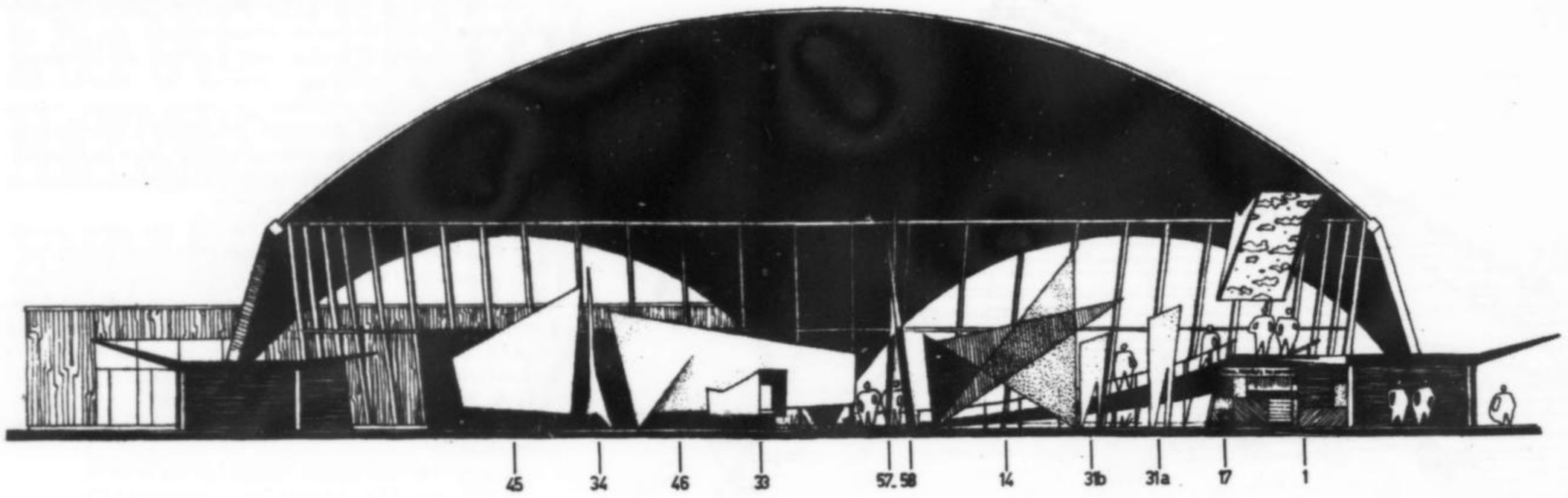
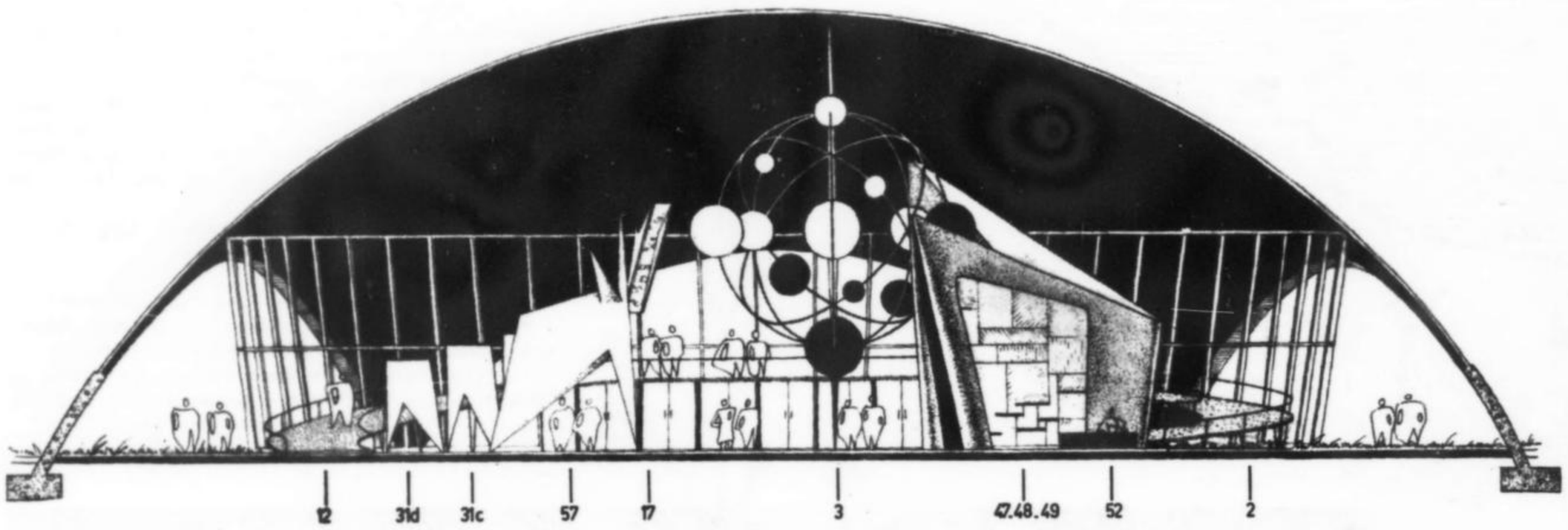
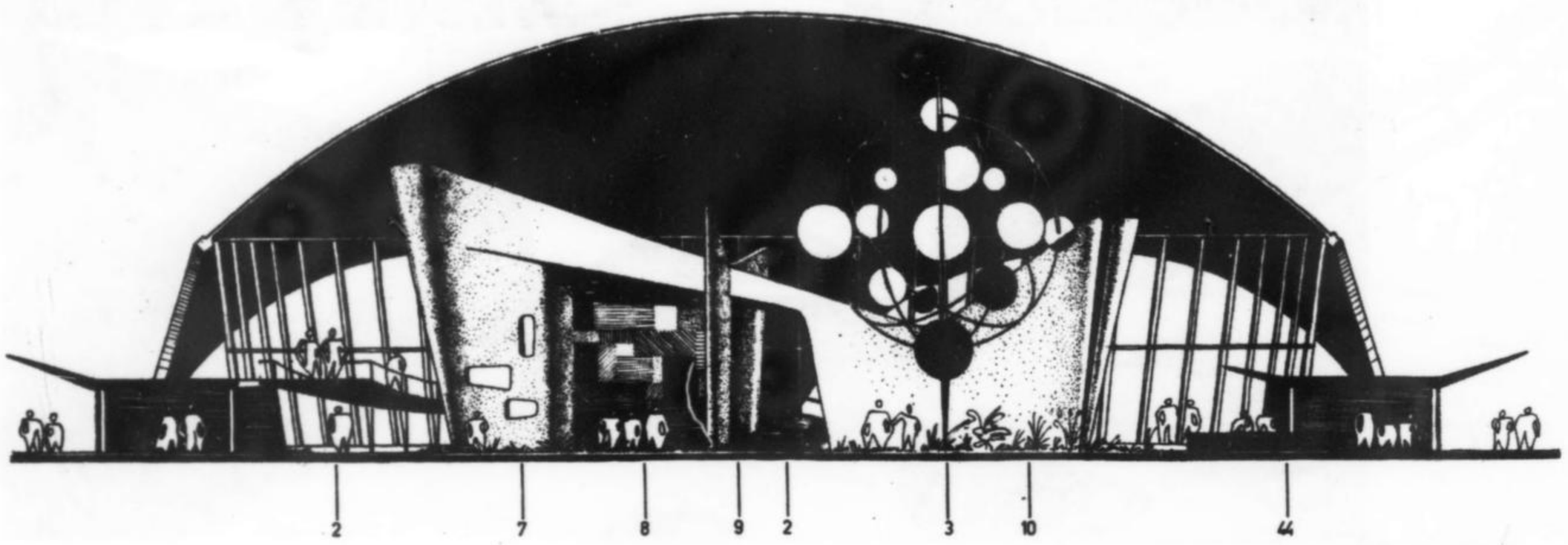




UNDER THE ROOF AN ATLAS 'OF THE CLOUDS'



Three architect's sketches showing how interior of the U.N. Pavillion at the Brussel's World Fair will look when completed. Display devices depicting varied activities of the U.N. and its Specialized Agencies will include a miniature dam in full operation, an "Atlas of the Clouds" explaining how they influence weather forecasts, a presentation of air traffic control across the North Atlantic and a large model of the U.N. Assembly Hall. Numbers on drawings correspond to those on plan published on previous pages, showing disposition of U.N. and Specialized Agencies' stands.



HUMANISM FOR A MODERN WORLD

THE 1958 Brussels International Exhibition is opening its doors wide to the interests of Humanism, taking as its major theme, service to mankind. It also seeks to present a complete balance sheet of this prodigious era, and to provide a new approach to human activity for a better world. Its theme also stresses the increasingly urgent need for all men to know and to understand each other better.

So far so good. No one could find fault with such commendable aims. But the word *Humanism,* while not equivocal in itself is, to say the least, polyvalent—a somewhat abstract term which can be construed in many ways. Where does Humanism begin? And what is a Humanist? Over a long period of time the term had a very concrete meaning. Humanism implied classical knowledge, a well defined branch of learning: that form of intellectual attainment which, in particular, is imparted by the study of Latin and Greek. Thus, the typical Humanist was a cultured man and a scholar, the gentleman who knew his classics and could quote his references in Greek or Latin.

Traditional Humanism is also almost automatically associated with the Renaissance, with the discovery of the world of the Ancients and of all its culture, which the mystical and scholastically-minded Middle Ages does not seem truly to have known, despite its learned men, theologians and abstract speculators on the essence of things. Ronsard, so deeply inspired by Greece, is a Humanist. But so is Erasmus and in his case more comes into play than form alone, more than the admiration which his doctrines may arouse. Here we already have a feeling of a certain individualism, which has since become known as "the human dimension"—that which is measurable by and within the grasp of man.

by

Maurice Lambilliotte

Director of *Synthèses*, an international review, Brussels

But is it within the terms of this definition—certainly valid and even noble, yet nonetheless somewhat narrow—that the Brussels Exhibition has sought inspiration for its theme to illustrate the spirit which it hopes will emerge from this meeting of nations, civilizations and cultures.

The ambition has been at once less abstract and yet, in essence, more far-reaching. It is to highlight the most significant characteristics of our times, and show that the period of amazing expansion in which we live must not blind us to, and less still make us disregard, the part played in it by Man—by each and everyone of us. The aim too is to show what must be done or attempted in order that our modern world, our increasingly collective and technological civilization, shall bear the stamp of the primacy of the human being, and of "the human dimension".

No one can deny that ours is a prodigious era. Have we not, in one century, made greater progress than in the entire period of historical and prehistorical times which preceded it? Of the past hundred years, a mere speck on the page of time, the last twenty-five have been the richest in discoveries which are transforming our ways of life and the very basis of man's estate.

This dynamic and seething growth, this greatly accelerated conquest of knowledge and the expansion which derives from them in every field, are evident to everyone. All around us we see the effects of this growth, in our daily existence, in our family and professional lives.

The expansion which overshadows all others and in large measure determines them is the one expressed by the demographic curve. In one century the population of the globe has more than doubled. Within twenty-five years it may well have increased by another 1,000 million. It may reach or even exceed four and a half thousand millions within one hundred years. This eruptive increase in the population of our planet obviously creates a corresponding increase in needs of every kind. On the world-wide scale—our only scale of measurement possible today—the provision of food, clothing, and housing presents enormous problems which scientific progress and the growth of technical skills alone can solve.

The face of the world is changing literally before our very eyes. Its most stable elements, once considered as traditional, are disintegrating. Others are striving to establish themselves. Peoples which for centuries have slumbered, are now awakening. The demand for social progress now universally echoed has aroused a desire for independence which has sometimes assumed the form of virulent nationalism.

But if demographic expansion and that of the needs which it carries with it may be considered as the most determining forces of the political and social changes which we are now witnessing, they still only bring about these changes through the equally irresistible growth of human genius, expressed through inventions and discoveries in sciences and technical skills.

Would the tremendous demographic expansion which marks our times have been possible, for example, had medical skill and hygiene not stepped in to arrest infantile mortality and increase the average life-span all over the world. It is also through science, through the organization of the exchange of goods, through the expanding media of communication and information, through better techniques, methods of organization and productivity, that mankind can hope to find a positive answer to its gigantic, growing needs. And how vast is the potential for progress in every field and in every direction. We have reached a point where we can no longer decide whether to place our era under the sign of the discovery of atomic energy, or under that of electronics and automation, which soon will be entering more and more fields.

True, a gap still exists between resources and needs. Too many people are still under-nourished. But we do know that this gap can be bridged. Natural sources do exist and human genius has already given sufficient proof, in science and in technical skills, of its ability to multiply still further the resources indispensable for the future.

The world has entered upon a phase which cries out for and demands the co-operation of all men in every field of endeavour. Not because co-operation is, of itself, a great and noble concept, but because it provides the only access to such technical equipment as will ensure balanced production for all peoples and the higher standards of living to which they rightfully aspire.

Science, moreover, is increasingly revealing itself as the birth-right of all mankind, a birthright to which neither nations nor groups nor indeed scientists themselves can for long claim exclusive rights and privileges.

By the very nature of the goals it sets in terms of productivity and the fantastic resources it requires, modern technology accentuates with each day that passes the collective character of modern life. Our era is fast leaving behind the day of the small craftsman and is producing in its stead a "technicist and herd civilization".

It would be futile to attempt to oppose such a trend the imperatives of which are all too obvious. And it would be unjust to condemn it in advance and to consider the hive-and-herd character of our times from a solely critical point of view. The gradual rise in standards of living, the decrease of individual physical efforts, the fading of age-old fears bred by hunger and disease (a relief not yet afforded to all peoples unfortunately) all

Cont'd on next page

HUMANISM FOR TODAY

(Continued)

are, on the whole, definite factors of human progress and new openings for individual and collective development.

This evolution (I believe it essential that all its characteristics be fully grasped) poses multiple problems which affect man and the humanizing element of man directly.

Neither the equipment of industry nor the development and modernization of technical methods to meet the need of our expanding human race can be achieved by the old methods applied up until now. At any rate they cannot be applied in a short enough space of time to count. A stage of planning and of co-operation at all levels and in every branch of human activity is hence essential. Certain phases of this co-operation have already been carried out by many international organizations during the past years.

But this undeniable and urgent need for close co-operation requires in turn more favourable moral and intellectual exchanges between men and between nations. These must get to know each other better before they can hope to achieve better understanding. This is one of the motivating concepts of the Brussels Exhibition.

The increasingly *collective* character of this "technicist and herd civilization" which is spreading to all peoples irrespective of historical or religious background further implies an increased solidarity between men and increased solidarity between the communities which they form.

★

The close relationship between this feeling of individual responsibility and one of dignity is well established. In fact that relationship opens up one of the avenues towards a Humanism which may perhaps be termed Empirical, and to which the 1958 Brussels Exhibition will give particular emphasis. The vigour of this empirical Humanism will in no way be diminished nor will it clash with the most traditional forms of culture. On the contrary, it will add a new dimension by directly linking these cultural forms to our daily life.

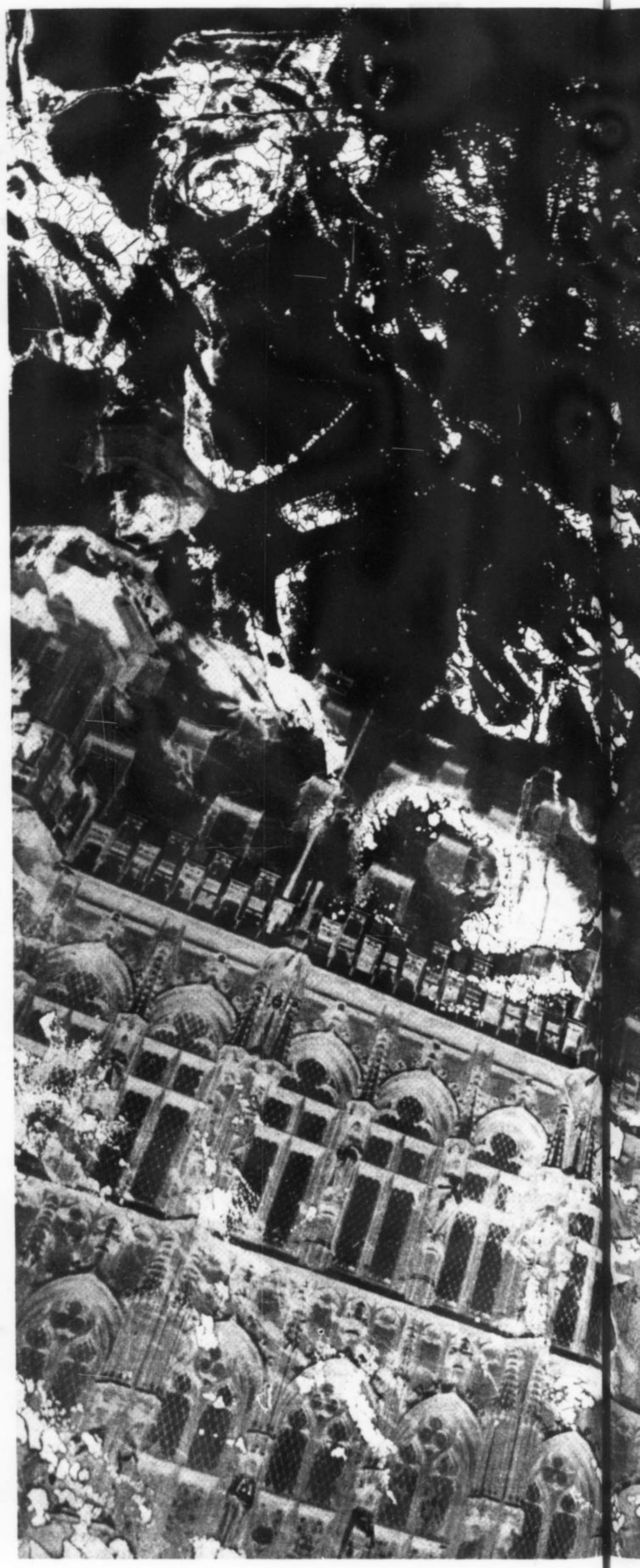
A leading place will be accorded to the arts, to letters and to science. Not only will the full sweep of human progress down the ages be delineated, but the deep-rooted kinship which unites mankind and has united it throughout history will probably be a revelation to many people.

From the new perspectives and trends already taking shape and clearly emerging today, a new lesson is coming to the fore: the importance now assumed by all those values connected with the inner being which make man really human. For the true sources of knowledge and human creativeness are born within the individual, even if the means of translating them into action and of giving them body later develop in a collective group. The source of all advancement, of all spiritual development is inner inspiration. Moreover these high concepts must be lived.

Thus on a broad canvas and with generous strokes of the brush, may be portrayed some of the outlines not, indeed, of a new Humanism, but of an evergrowing concern with the defence and safe-guarding of the most authentically human qualities of each one of us.

In planning the Brussels Exhibition it was felt that there was a duty to set forth, to the greatest extent possible, the most striking characteristics of our era, so that millions of people might have an inkling of the many educational and cultural paths which can reinforce the individual and human aspect within a civilization dominated both by the technological and group-conscious.

The man of tomorrow can look forward to much from a civilization of this kind provided he demands and achieves the primacy of the human element.



BRUSSELS
CITY HALL
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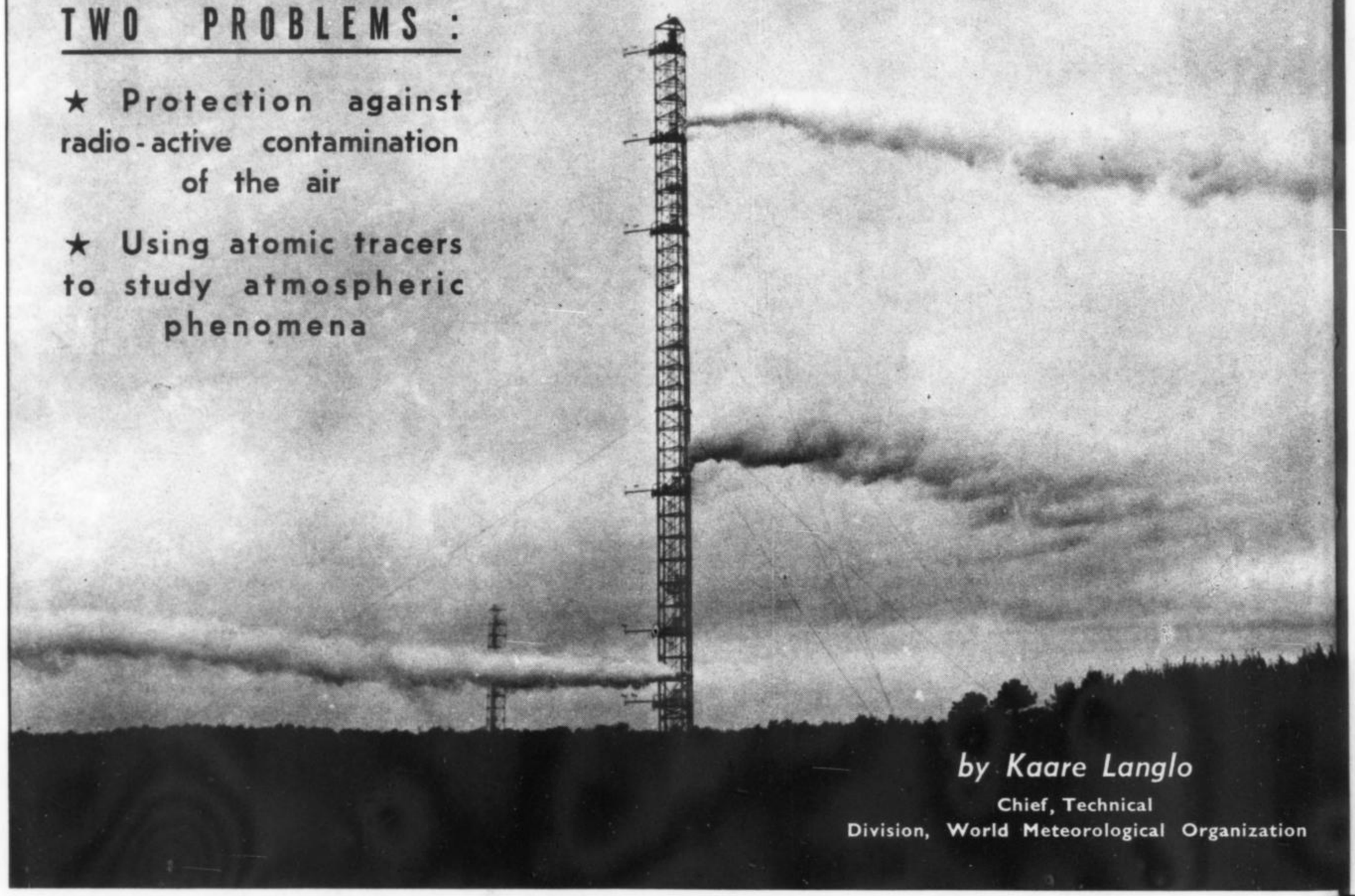
METEOROLOGY IN THE ATOMIC AGE

TWO PROBLEMS :

★ Protection against radio-active contamination of the air

★ Using atomic tracers to study atmospheric phenomena



by Kaare Langlo
Chief, Technical
Division, World Meteorological Organization

THERE are certain aspects of the utilization of atomic energy which recently have received increasing public attention: firstly to what extent the use of radio-active substances can contribute towards the solution of certain fundamental problems in meteorology and secondly the role which the meteorologist can play in the "atomic age", for instance in connexion with the work of safeguarding the public against dangerous contamination of the atmosphere due to radio-active substances produced by atomic plants.

It should be pointed out in the first instance that the possibility of using certain radio-active substances (isotopes) in meteorological research, and also in the closely related hydrological research, is still in its experimental stage. The research-projects mentioned below should therefore not be regarded as exhaustive, but rather as examples of those possibilities which at present look most promising.

One of the research projects which particularly appeals to people's imagination is the possible use of a radio-active substance as a tracer to study air currents in the atmosphere. The main idea is to give the air current a strong "injection" with a suitable harmless radio-active substance, preferably a gas, and subsequently study the transport and dilution of the radio-active gas in the atmosphere.

It has been suggested that this method would be useful for the study of the remarkably strong jet stream which frequently exists at a height of 8 to 12 kilometres and which has considerable importance in connexion with the safety and economy of aircraft operation.

A large-scale experiment of this type would require considerable preparation, not only to determine where in the atmosphere it would be most advantageous to release the radio-active gas, and at what time, but also with regard to the choice of a radio-active tracer. This should have a half-life (1) of several years and it should not be liable to be washed out by precipitation.

Furthermore a world-wide network of observing stations would have to be organized and these should be in operation over a period of some years. The first attempt would need to be successful, for if it failed, a second trial could only take place after several years, when the radio-activity of the introduced tracer had diminished sufficiently—unless other and equally good tracers were available.

Other possible uses of isotopes exist due to the fact that radio-active tritium can be used to "mark" water vapour molecules without changing their characteristics. Since water vapour is an important link in the hydrological cycle, there are reasons to believe that the use of such techniques may be of importance, particularly in hydrology. A similar method has been employed in studying the source of origin and movements of various types of surface water.

A third example is the use of radio-active measuring techniques to determine the water equivalent of snow. For various purposes, e.g. in connexion with the forecasting of river floods and runoff, it is necessary to know as accurately as possible the water equivalent of the snow accumulated in a certain area in winter.

It has been suggested that the water equivalent of snow can be measured with considerably greater ease than with the present methods, by placing a suitable radio-active substance at the earth's surface below the snow, and measuring the attenuation of the radiation passing through the snow

(1) The time in which radio-activity is reduced to half.

layer. This method has already been introduced on a trial basis at several stations in the United States.

With regard to the second aspect of the peaceful uses of atomic energy—the contamination of the atmosphere—this is a field where the advice and assistance of meteorologists would be very useful indeed. Fortunately, one of the characteristics of the atmosphere is its ability to clean itself, but this ability to dilute or disperse "foreign" gases or particles is limited, and varies with the season, the time and geographical position.

The winter fog over London for instance—or the common smoke-layer over a great number of cities in the morning—always appears when the conditions and movement of the atmosphere are such that it does not succeed in dispersing the contaminating particles sufficiently rapidly.

The "waste-products" which certain atomic plants are releasing into the atmosphere may be several tens of times more toxic than the waste-products released from chimneys belonging to ordinary industry. It is therefore of vital importance to find quantitative expression for the relationship between changes in the diluting ability of the atmosphere and the resulting concentration of radio-activity in the air and on the ground.

This is a complicated problem, the solution of which is mainly dependent on accurate knowledge of wind and temperature gradients and their variations, horizontally, vertically and with time. The topographical conditions around the atomic plant may also play an important role in these calculations.

The scope and type of assistance to be given by the meteorologists in connexion with the establishment and operation of industries based on atomic energy will naturally depend on the site and size of the plant, and particularly on the extent to which its radio-active waste-products are expected to contaminate the atmosphere. It seems superfluous to point out that the advice of the meteorologist should preferably be obtained before the final site for the atomic plant has been agreed upon, unless other factors are of greater importance.

Certain atomic plants may require a permanent network of meteorological stations which will have to undertake frequent and regular observations. These observations will be of importance in ensuring that the operation of the atomic plant at no time constitutes a risk for the population.

Neither the meteorologist nor the atom-physicist should work independently on these problems. The nuclear-physicists, chemists or engineers will provide all information about the source of the problems; amount, nature and properties of the radio-active waste-products. The health physicist will determine the permissible concentration of radio-activity in the air and on the ground, and also the maximum permissible doses of radiation. Taking this information as a basis, the meteorologist will advise on the meteorological conditions which may lead to concentrations of radiation exceeding the permissible limits.

Both the health physicist and the meteorologist will require a network of observing stations to solve his part of the task. As mentioned earlier, certain meteorological research projects are also dependent on a world-wide network of observing stations. There seems, therefore, to be some merit in ensuring that the various measurements required for different purposes are made at the same stations.

For health purposes, it is of the greatest importance to measure the total radio-activity due to air-borne radio-active particles deposited on the ground.

The meteorologist will, however, require the following two types of radio-activity measurement: (a) at the earth's surface; (b) in the free atmosphere.

The first of these will consist of samples of radio-activity of rain water and of measurements of radio-activity of the air at the earth's surface by means of a suitable filter (2). The second type of observation is designed to permit study of the vertical distribution of radio-activity in the atmosphere, and requires relatively expensive equipment. Such observations may consist of "filter" measurements from aircraft or measurements made by means of sounding balloons. The latter method is still in an experimental stage and is not considered as sufficiently reliable.

It should be emphasized that the establishment of stations for the observation of radio-activity is closely related to the peaceful uses of atomic energy and a number of countries have already set up such stations or are in the course of doing so.

Steps to improve the world network of stations for measuring radio-activity to organize their programme of observation and the collection of the data are being taken in connexion with the forthcoming International Geophysical Year and it is believed that this initiative will lead to a still closer scientific co-operation between nations in this important field.

Whether we approve of the use of atomic energy or not, the only course open to us seems to be to prepare ourselves in the best possible way to use this new form of energy. In this connexion the meteorologist should accept his share of the work and of the responsibility.

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(2) The radio-activity of the filter is measured after a known amount of air has been drawn through it.

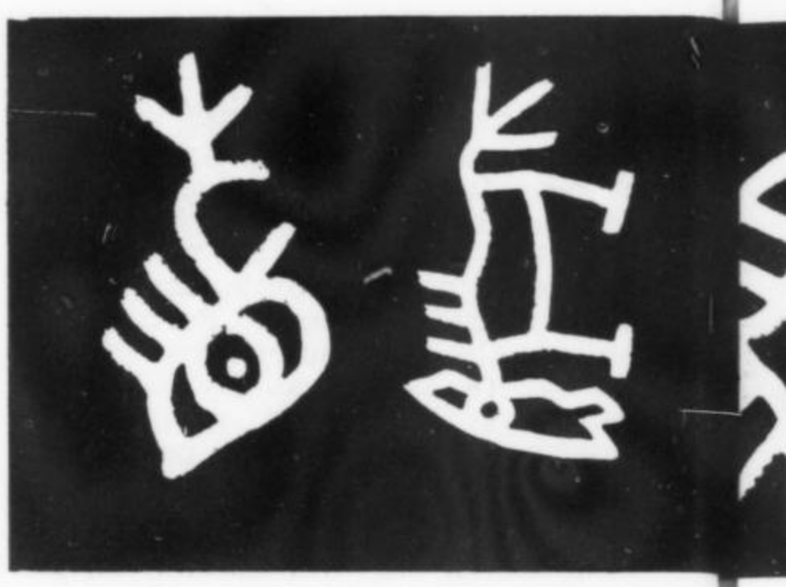
RADIO-ACTIVE ISOTOPES are today being considered for use in meteorological research as "tracers" to study air currents in the atmosphere. Such substances are already widely employed in medicine, agriculture, industry and other fields. Here, an industrial hygiene specialist studies harmful airborne particles in a factory. He counts the concentration of dust particles by coating them with a radio-active substance (metallic selenium). This research, which includes testing the toxicity of dusts on animals, is one type of work performed by the Atomic Energy Project at the University of Rochester, in the United States.

★

SMOKE PLUMES coming from a tower at U.S. laboratory, (opposite page) enable meteorologists to dermine the right weather conditions for releasing into the atmosphere air which has been used to cool the laboratory's atomic reactor.

USIS Photos

Chinese gets a Latin alphabet



by Chou You-Kuang

BEGINNING this autumn, some of the fifty million children in China's primary schools will start learning a new phonetic alphabet using Latin letters. They will not stop learning the traditional characters. For the time being, both will be taught simultaneously. This is a preliminary step in the big programme to change China's written language from a set of ideographs to one in which the words are "spelled out" in letters denoting sounds.

Up until now students of Chinese have faced the task of mastering over 3,500 separate characters before they could read a newspaper or a simple novel. Each character is made up of anything from two to thirty strokes. Besides recognizing what it means, one has to learn how to pronounce each one separately. There is no correct indication of sound in the character itself. To reach university level, it has been necessary to acquire at least five or six thousand such symbols. Even this is not a sufficient key to the great treasure-house of China's classical literature—to understand the writing of the past, a scholar may need to recognize at least 10,000 characters.

Now the first big step has been taken toward a change. Eventually—how soon it is not possible to say, for we are dealing with a gigantic process with many complications—the Chinese school child, after mastering 26 letters and their sounds, will be able to recognize and pronounce all the words he knows. He will be doubly fortunate because he will learn a spelling system that is being worked out scientifically. There will be fewer irregularities of spelling such as exist in languages whose orthography has grown up by accidents of history, like English.

The need for such a reform has long been recognized. To transform China from a backward country into an advanced industrialized one demands the rapid education of the whole people, and the wiping out of illiteracy. At present, simply to learn to read takes months or years of time.

The characters also run counter to the needs of modern techniques and communication. In the printing press, types are set by hand. Chinese typewriters exist but they are slow and clumsy. In telegraphing, every character must be changed into a four-number code, which then has to be deciphered at the other end—a great hindrance, among other things, to journalism in these days of split-second news reporting. Dictionaries are arranged in several different ways, none of them simple or quick. There is no satisfactory method of indexing records or everyday reference works—directories, yearbooks, encyclopaedias and so on.

For the last sixty years, Chinese scholars have tried to devise and promote new systems of writing. The adoption of the new alphabet by the State Council was preceded by a whole year of public discussion of a draft scheme, prepared by the Committee for Reforming the Chinese Script. Over 10,000 language experts and teachers took part in special conferences organized by local and national committees. More than 4,000 letters of suggestion and comment were sent in, including many from Chinese living abroad and from foreign philologists.

Finally, two alternative revised versions were worked out and these, together with the original draft and three other proposed schemes, were submitted to a special government committee. The first revised scheme finally won the approbation of 136 out of the 234 experts who took part in the study. This was the basis of the State Council's decision.

★

WHY was the Latin alphabet preferred to others? The reason was that, though not entirely appropriate for reproducing all Chinese sounds, it is the most widely known one in the world. More than 60 countries now use it, including the majority of those in Europe, the Americas and Southeast Asia. Its letters are internationally employed as symbols in mathematics and natural science. Mastery of it will permit Chinese people to learn other languages more easily. Its use will make Chinese more accessible to foreigners.

Moreover, attempts to use the Latin script to write Chinese have a long history. The first was made by an early Christian missionary scholar, the Italian Jesuit Matteo Ricci, in the year 1604. After the Opium War of 1840 more missionaries flooded into China, and between 1847 and 1893 they "romanized" the sounds of at least 17 regional dialects for convenience in translating the Bible. With the development of foreign trade and contacts, names of places and persons had to be given some form of spelling for use in shipping documents, the post office and the press abroad. Among the methods devised by foreigners for spelling the official "Mandarin" language, the most widely used was the "Wade system", published in 1867 by the British sinologist Thomas F. Wade. This is still used in the Chinese post office, and for rendering Chinese characters in English maps, dictionaries and so forth, but no attempt was ever made actually to write Chinese in it.

Following the short-lived "reform movement" in the 1890's, during the last period of the Manchu dynasty, Chinese scholars began to study the possibility of introducing the Latin alphabet for the language. They devised a number of different systems. But at that time the majority favoured the adoption of simplified Chinese characters. After the overthrow of the Manchu dynasty, a set of 40 new symbols, based on Chinese characters and known as the *Chu-Yin Tzu-Mu* (Phonetic Alphabet) was ratified by the government of the day, in 1918. Up to now these signs have been printed alongside the characters in dictionaries and primary school textbooks to help the students pronounce the words. Though it provides adequate symbols for the various sounds of the language, these are inconvenient for reading and writing. The symbols cannot be joined together in a flowing script. They would be hard to adapt for typewriting, typesetting and telegraphy.

After May 4, 1919, intellectuals began to consider more seriously the problem of the reform of the written language. They knew that popular education and literature could not flourish unless the gap between the written and spoken word was overcome. They stood for the use of everyday speech in writing, instead of the antique classical style employed till then in literary prose and poetry, letter-writing and even the press. For some years attention was centered on writing the spoken language with the old characters. By 1926, a group of progressive philologists came together to make research into ways of writing Chinese phonetically and brought out a scheme called Gwoyeu Romatzyh (Chinese Romanization). But this did not gain wide popularity.

The most successful and vigorous efforts to introduce a phonetic alphabet in this period began in the late 1930's. Impressed by the successful use of such scripts to provide written languages and wipe out illiteracy among some of the minorities in the Soviet Union, a group of Chinese revolutionaries, led by the Communist writer Chu Chiu-pai, set to work in

Evolution of the Chinese character *ma*, meaning "horse".

1928 to devise a phonetic system for China. This was introduced in 1933 under the name of *Latinxua Sin Wenz* (New Latinized Writing). The following year saw the beginning of the National Salvation Movement against Japanese Invasion. In this movement the *Latinxua* system took hold, and was widely used.

In the following years, a number of *Latinxua* associations were organized in places like Shanghai, Canton, Hankow and Hong Kong. Newspapers and periodicals published articles to promote it, and textbooks and other materials were produced. During the Anti-Japanese War it was taught to the people of the Yenan area (the Shensi-Kansu-Ninghsia Border Region). It also caught on in the areas of national resistance founded behind the Japanese lines in north and northeast China and elsewhere, where soldiers and people learned its use.

Following the defeat of Japan in 1945, the work of spreading the alphabet lapsed for a while. But those who had learned the Latin alphabet did not forget it—for instance, it was recently found that in one county in Hopei province, practically all middle-aged men and women still knew how to write in it. It continues to be used for transmitting service telegrams on all railways in Northeast China.

But even with the Latin alphabet, there is still a lot to be done before it becomes a workable method of writing Chinese. One necessary step—already under way for some time—is to popularize what is called "the common speech", the standard Peking pronunciation. China has a number of dialects and people from different areas often find it difficult to communicate with one another orally (though they use the same written language). To help them learn a common language in addition to their own dialect is desirable in itself; it is essential if a phonetic language is to succeed. Primary school teachers and workers in other educational fields all over the country are now studying the standard pronunciation. Radio, theatre and cinema are popularizing it among the people at large.

★

On the technical side, there are still a number of unsolved problems concerning such matters as spelling. Philologists have started to study the homophones (words different in meaning but the same in sound) in the Chinese language so as to work out a way for distinguishing between them when written. For instance 树木 meaning a tree and 数目 meaning a number are both pronounced *shumu*. However, this is not a very serious difficulty because, when the words are printed in context, confusion between them is unlikely. Clear identification may be facilitated by varying the spelling or inserting hyphens in some words.

Another question is how to put words together. Each Chinese character represents a separate syllable and may stand by itself or be combined with one or several others to form a word. For instance, the word for a chicken consists of two characters, written 小鷄 (*hiau gi*). Shall it be written as one word or two? And how shall we spell out numerals and measurements? The characters 一千三百六十五 (*ji kian san bai liu shi wu*) mean one thousand three hundred and sixty-five. Should they be run together *jikiansanbailiushiwu*, or combined by numbers and units: *jikian*, meaning one thousand; *sanbai*, three hundred; and so on?

These and similar problems, such as the writing of Chinese versions of foreign place names, will be settled through study and trial. Only when all are solved and the new practice has won the assent of the public will it be possible to say that a new phonetic written language actually exists. Only then will the new script be recognized as a standard method of writing, alongside the old character-method.

Even after the phonetic language becomes universal for ordinary purposes, middle school and university students will continue to study the traditional Chinese characters, just as some in Britain and France study Latin and Greek. At present most students who have reached university level can only read works in the modern literary style, or *pai hua*—*common* speech. Those specializing in history, the Chinese language, and literature will continue to study *wen yen*, or the classical style, which is widely different.

At the same time the classics will be translated into plain modern language. This is already being done, and later they will be transliterated in the phonetic alphabet. So China's ancient culture will not be buried. On the contrary it will be brought within reach of the whole people for the first time in our history.

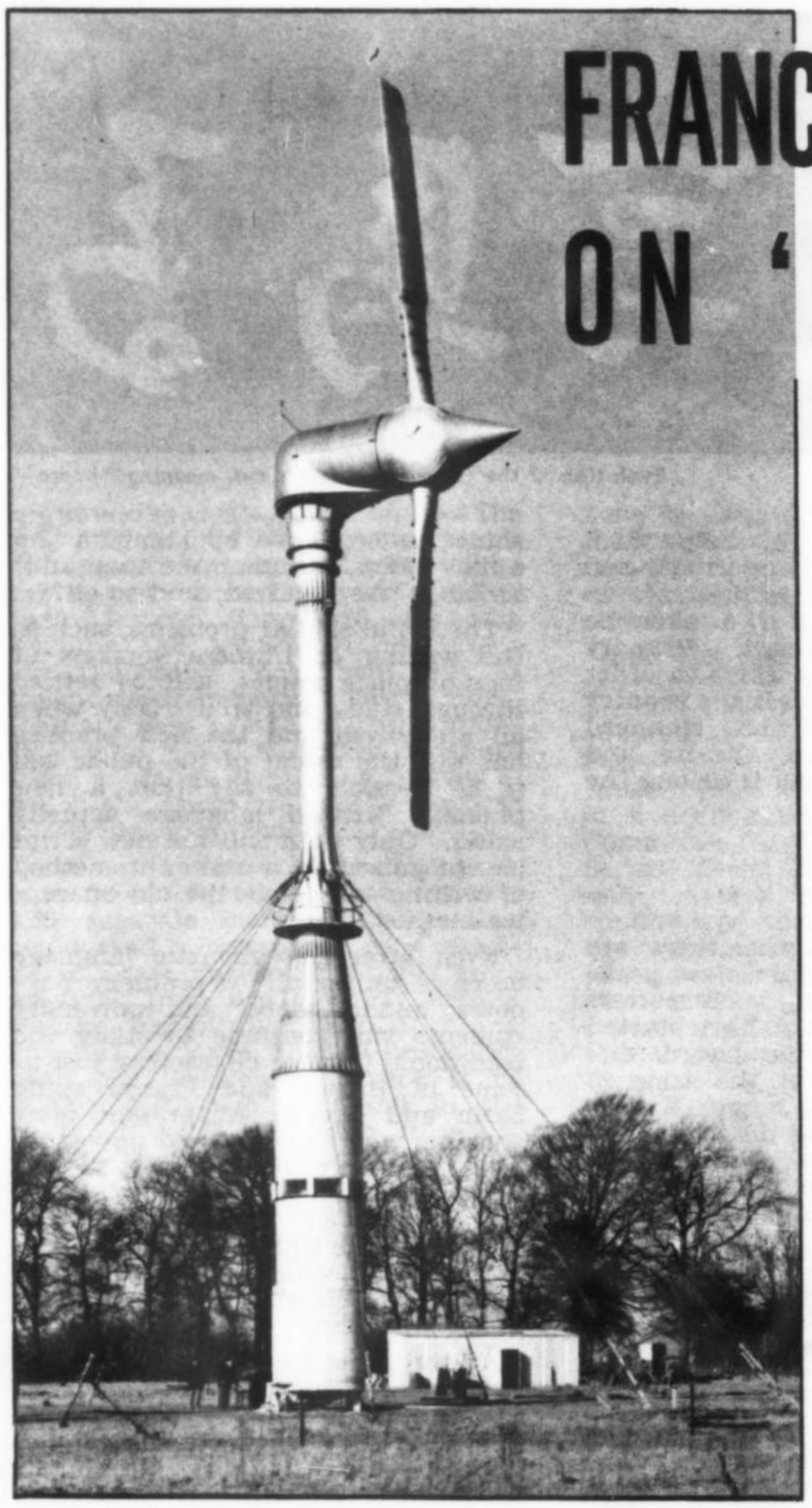
CHOU YOU-KUANG is a member of the National Committee for the Popularization of Standard Spoken Chinese, and also heads the Phonetic Research Department of the Committee for the Reform of the Chinese Written Language.

FOUR WAYS OF WRITING A CHINESE SENTENCE

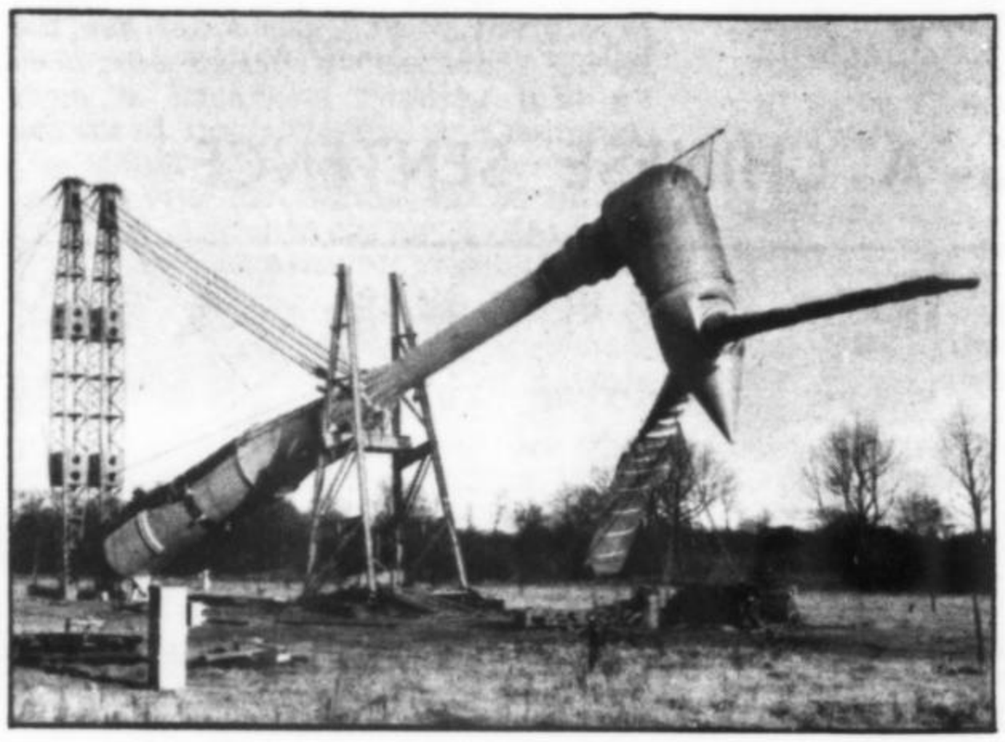
Ideographs:	推广	"普通話";	逐步	采用	拼音	文字。
Wade system (1867):	**T'ui-kuang**	**p'u-t'ung-hua;**	**chu-pu**	**tsai-yung**	**p'in-yin**	**wên-tzŭ.**
Chu-in Tzu-mu (1919):	ㄊㄨㄟㄍㄨㄤ	ㄆㄨㄊㄨㄥㄏㄨㄚ;	ㄓㄨㄅㄨ	ㄘㄞㄩㄥ	ㄆㄧㄣㄧㄣ	ㄨㄣㄗ.
New phonetic alphabet (1957):	**Tuiguang**	**putunghua;**	**zhubu**	**caiyng**	**pinjin**	**wenzi.**
English meaning:	**Popularize the "common speech";**		**gradually**	**begin using**	**the phonetic**	**alphabet.**

FRANCE'S GIANT MACHINE ON 'BIG WIND' HILL

by E. W. Golding



EXPERIMENTAL WINDMILL which will be used for wind energy research in Algeria. Built in England under French licence the machine is one of the largest of its kind (its rotor is 80 feet in diameter). Total annual energy from the generator it will drive is expected to be about 200,000 kilowatt hours. Photos show it being assembled in England.



In this age of rapidly increasing mechanization for almost every job originally done by man or his working animals, power and development have become inseparably linked. To have an abundance of power is to have means of development towards that better way of life which is the legitimate aim of all peoples.

But from whence is this power to be provided? From the so-called "fossil fuels"—coal, oil or, perhaps, natural gas—but these are being exhausted at an ever-increasing rate which has already achieved an alarming figure in relation to the known world resources of such fuels. Again, their distribution is extremely uneven; some countries have an abundance of coal, some large reserves of oil, but others have neither of these natural riches. Nor have they always the means of importing them in sufficient quantity to serve as a basis for development.

Nuclear energy is coming to the fore so quickly in some of the more technically-advanced countries that their anxiety for the future of power supplies through fossil fuels may be largely relieved, but both the technical and economic problems involved in this new method are such that it would be wrong to assume that nuclear energy will overcome all the difficulties of power supply, for the world, in the near future.

In some parts of the world it is possible to utilize "geothermal" energy, i.e., energy obtained from the internal heat of the earth, but special geological formations are needed for this to be economical.

What are the other possibilities for power production? They are the inexhaustible energy resources which constitute the world's annual energy income—as distinct from the energy capital, in the form of fuels, which is being exhausted at such a high rate. These resources are water from rivers and mountain lakes, the winds, solar radiation, and, in some regions, the energy from the tides, from sea waves or that obtainable from the differences which exist between the temperature of the water deep down in the sea and that at the surface—one of the other effects of solar radiation.

Of these possibilities, water power is already providing a major contribution to our energy supplies. In fact, it is being exploited on such a large scale in North America, Scandinavia and Western Europe that, in some areas, few economic schemes remain for future development, but there are great untouched sources of water power in Africa, Asia and South America. These, undoubtedly, will be used sooner or later but there are serious difficulties in that the cost of building hydro-electric schemes is very large and is often beyond the financial means of the countries concerned.

The locations of these schemes also are often far distant from the centres of population where the power could be used so that heavy costs would be involved in transmitting the power to the users. Less serious, but still important, difficulties arise, again, from the uneven distribution of water power between countries and from its irregular availability—either because of lack of rainfall in some years or, seasonally, because of the water being ice-bound in the high mountain lakes.

The other inexhaustible energy resources, vast though they are in total, have so far been used for power production only to a very slight extent but their potentialities are now being recognized and, encouraged by the new technique of manufacture, and new materials, which have been introduced during recent years, very considerable

efforts in research and development, all over the world, are now being applied towards the perfection of machines and operating methods for their exploitation.

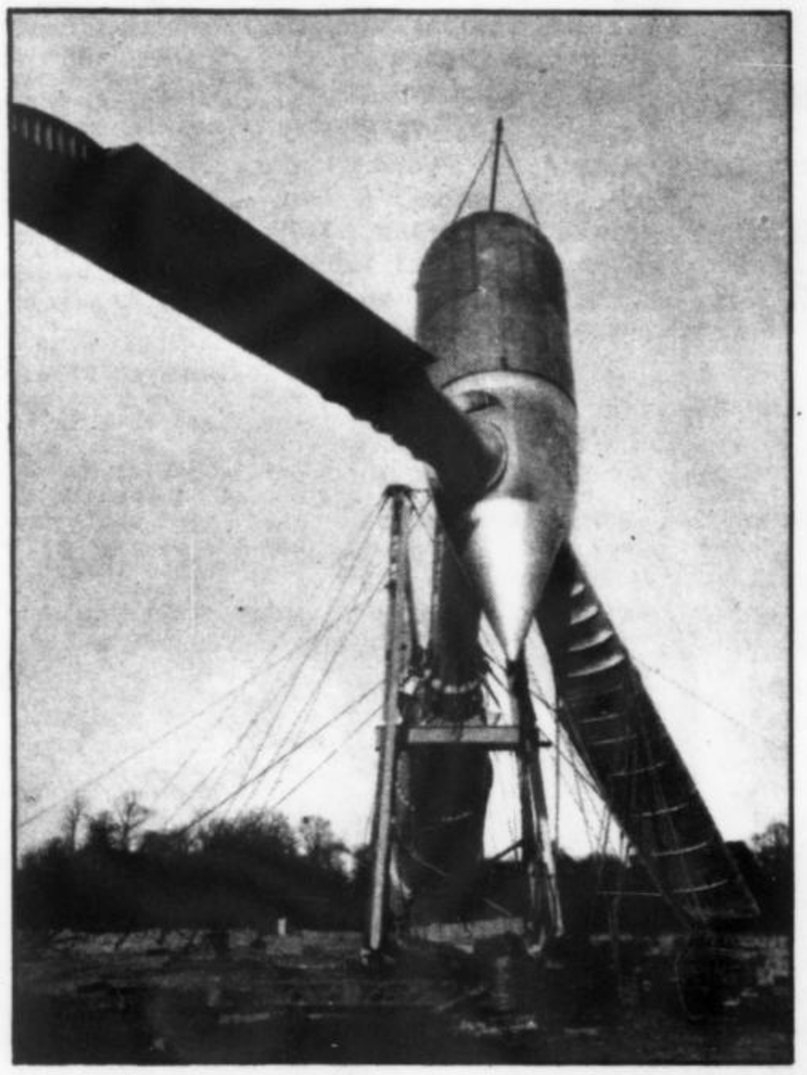
As with water power, but in a rather greater degree, these resources are irregular in recurrence; the wind blows, or dies away, with no very certain pattern; the sun shines with rather more certainty—but only in the day time; tidal power is usable at varying times of the day at certain places where the conformation of the coast is favourable, and so on. Because of the lightness of the air for wind power purposes and the "thin" distribution of solar radiation over the ground, machines to capture the energy on a significant scale have to be large, and unless designed and built with care and ingenuity, tend to be expensive.

These unconventional energy sources of wind and sunshine have, however, important advantages—they are widespread and are freely available at many places where power is badly needed so that questions of power transmission are therefore eliminated.

It is possible, of course, to store energy so that a superabundance at one time can be made to counterbalance a later deficiency.

But such storage is often expensive and wasteful and a better solution to the problem of effectively using random supplies of energy is to be found in combining that from several different sources so that they may complement one another.

News of an interesting experiment towards this end comes from Algeria where the national utility company, *Electricité et Gaz d'Algérie,* is installing a large windmill, of novel design driving an electric generator which will help to provide power for the electricity network.



The demand for electric power in Algeria has increased very rapidly in the past few years. To meet it there are a number of modern power stations and also some hydro-electric installations, the most important being in the *Petite Kabylie* region. These power stations are linked by a transmission system which includes a line operating at 150,000 volts, running along the coastal region from east to west. Natural energy resources likely to offer possibilities for exploitation are few, with the possible exception of natural gas which was recently discovered in the south and whose development is now being studied.

For the past eight years, therefore, *Electricité et Gaz d'Algérie* has been investigating the possibilities of wind power which might perhaps offer a worthwhile auxiliary to hydraulic power, though this has already been harnessed by the capacity of the dams. Now the company is to make tests with the windmill built by a British firm, under French licence.

The site chosen for the installation of the windmill is a small, well-exposed hill (about 860 feet high), some six miles from Algiers and five miles from the sea. This hill, which has the promising name of "Big Wind", lies close to a road and to a high tension line carrying 10,000 volts.

Extensive wind surveys in Great Britain have shown that hills of a similar shape to this one in Algeria, especially when near the sea, have a wind regime which is very favourable for wind power.

Theoretically, the average annual production on this site is about 2,000 kilowatt hours per cubic metre which would mean that the machine could give an annual output of energy equivalent to its running at full capacity for some 1,800 hours each year.

The experimental wind-driven generator has a capacity of 100 kilowatts so that the annual total of energy to be expected from it will be about 200,000 units (kilowatt hours). Although this is not a very large total as compared with the country's needs for energy, successful results from tests with such a machine would indicate the possibility of installing more, and larger ones to provide a significant contribution of energy.

The late M. Andreau, of Paris, first expounded the novel principle of operation followed in this new machine which was built in Great Britain. One firm was responsible for the project and another developed M. Andreau's ideas in the machine's design and construction so that it is by far the largest plant of this kind which has yet been built.

The principle can be explained as follows:

A wind-driven generator of any kind must have a rotor, driven by the wind, and this rotation must be transmitted to an electric generator. In other windmills the power transmission has been through gearing to obtain, from a slow-running rotor, the high speed which is needed for the generator; both the gearbox and generator are usually mounted immediately behind the windmill rotor at the top of the tower. In the Andreau principle the blades of the rotor are hollow and are open at their tips. The rotor hub and supporting tower are also hollow. When the wind causes the rotor to rotate, air is flung out centrifugally from the tips of the blades and a suction is created so that a large volume of air—actually, in this machine, some 58,500 cubic feet per minute when the wind speed is 30 miles an hour—is drawn up the hollow tower and through an axial-flow air turbine, with a vertical shaft, mounted near the bottom. The turbine drives an a.c. generator carried below it on the same shaft.

Although the 80 ft. diameter rotor, which has two hinged, aluminium alloy blades each weighing 1,600 lbs., runs at only 100 revolutions per minute, the turbine and generator rotate at 1,000 r.p.m. The rotor runs downwind of the tower. This facilitates orientation to follow changes in wind direction; the orientation is power assisted and is controlled by a wind-direction indicator which is mounted above the front of the hub.

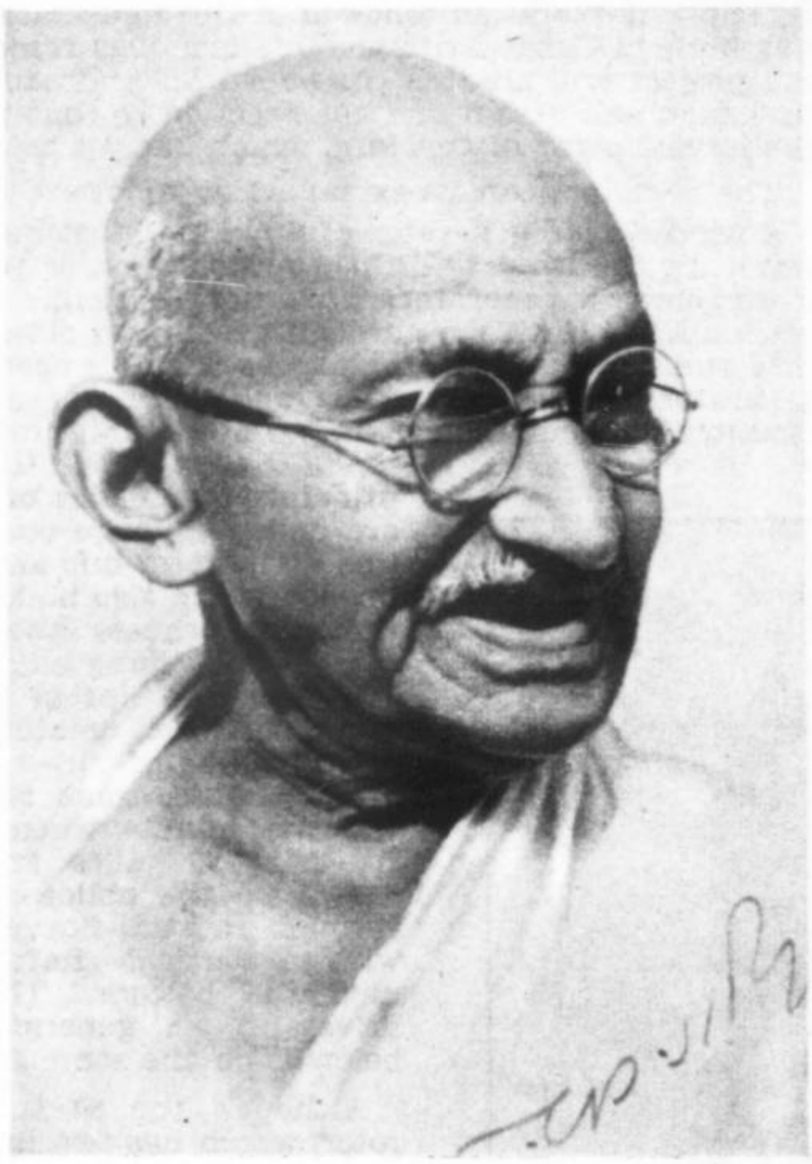
The height of the hub, above ground, is 100 feet and the steel tower, which is supported by 12 galvanised steel cables, has a diameter of 9 feet at the bottom and 3½ feet in the upper part. The weight of the complete machine is 60 tons.

Full output of 100 kilowatts will be produced by a wind of 30 m.p.h. For higher wind speeds this same output will be maintained by an automatic changing of the pitch of the blades until, when the wind speed rises to 65 m.p.h., the blades are feathered and the rotor stops. For wind speeds below 30 m.p.h., down to about 17 m.p.h., the machine produces a reduced amount of power. The 3-phase alternator, of the synchronous induction type, generates power at 415 volts.

Advantages of the Andreau-type of wind-driven machine are that the generating plant and control gear are located at ground level, where they can be inspected frequently and easily maintained, and also that the rapid fluctuations in wind speed which commonly occur are damped out by the very flexible drive—through a long column of air—and so do not cause trouble by passing a correspondingly variable power output into the network.

It will indeed be most interesting to follow this Algerian experiment, with not only an unconventional source of energy for the network, but with such a novel form of machine to capture and utilize it.

Photographs and explanations regarding the functioning of the Andreau-type wind-driven machine referred to above figure in the Unesco Travelling Exhibition, "Energy and its Transformation". This Exhibition first opened in Paris in March 1956, later visited New Delhi and Ahmedabad in India and is now touring cities in the Far East. It has already been seen by more than 270,000 people.



MAHATMA GANDHI

LEO TOLSTOY

Westminster Palace Hotel,
4, Victoria Street,
LONDON, W.C.
10.11.1909.

Dear Sir:-

I beg to tender my thanks for your registered letter in connection with the letter addressed to a Hindu, and with the matters that I dealt with in my letter to you.

Having heard about your failing health I refrained in order to save you the trouble, from sending an acknowledgment, knowing that a written expression of my thanks was a superfluous formality, but Mr. Aylmer Maude, whom I have nowbbeen able to meet reassured me that you were keeping very good health indeed and that unfailingly and regularly attended to your correspondence every morning. It was very gladsome news to me, and it encourages me to write to you further about matters which are, I know, of the greatest importance according to your teaching.

I beg to send you herewith a copy of a book written by a friend - an Englishman, who is at present in South Africa, in connection with my life, insofar as it has a xxxy bearing on the struggle with which I am so connected, and to which my life is dedicated. As I am very anxious to engage your active interest and sympathy, I thought that it would not be considered by you as out of the way for me to send you the book.

In my opinion, this struggle of the Indians in the Transvaal is the greatest of modern times, inasmuch as it has been idealised both as to the goal as also the methods adopted to reach the goal. I am not aware of a struggle, in which the participators are not to derive any personal advantage at the end of it, and in which 50% of the persons affected have undergone great suffering and trial for the sake of a principle. It has not been possible for me to advertise the struggle as much as I should like. You command, possibly, the widest public today. If you are satisfied as to the facts you will find set forth in Mr. Doke's book, and if you consider that the conclusions I have arrived at are justified by the facts, may I ask you to use your influence in any manner you think fit to popularise the movement ? If it succeeds, it will be not only a triumph of religion, love and truth over irreligion, hatred and falsehood, but it is highly lilely to serve as an example to the millions in India and to people in other parts of the world who may be down-trodden, and will certainly go a great way towards breaking up the party of violence, at least in India. If we hold out to the end, as I think we would, I entertain not the slightest doubt as to the ultimate success; and your encouragement in the way suggested by you can only strengthen us in our resolve.

The negociations that were going on for a settlement of the question have practically fallen through, and together with my colleague I return to South Africa this week, and invite imprisonment. I may add that my son hashappily joined me in this struggle, and is now undergoing imprisonment with hard labour for six months. This is his fourth imprisonment in the course of the struggle.

- 2 -

If y ou would be so good as to reply to this letter, may I ask you to address your reply to me at Johannesburg, S.A. Box 6522.

Hoping that this will find you in good health, I remain

Your obedient servant,

mkgandhi

Count Leo Tolstoi,
Yasna Polyana,
Russia.

Tolstoy museum solves a 50-year-old mystery

THE 'LOST LETTER' OF MAHATMA GANDHI

by Alexandre Chifman

Tolstoy Museum, Moscow

THE ideas of men of genius do not wither with age. Though nearly half a century has elapsed since the exchange of letters between Leon Tolstoy and Gandhi, their correspondence continues to be the subject of study in many countries of the world. Scholars of the East as well as the West have been drawn to the letters of these great thinkers and have admired the profundity of judgment and the inspiring ideas about friendship and peace between peoples expressed in them.

The Tolstoy-Gandhi correspondence was first published in Germany in 1925 by Tolstoy's Russian friend and biographer, Pavel Biryukov, in his book, *Tolstoï und der Orient* ("Tolstoy and the Orient"). It was in this form that it subsequently became known throughout the world.

When Romain Rolland discussed the universal cultural influence of Tolstoy and Gandhi in his book *La vie de Tolstoï*, published in 1933, he had Biryukov's edition of the correspondence before him. So did Stefan Zweig, when he wrote about Tolstoy and Gandhi in his *Adepts in Self-Portraiture*. The same letters were published in 1939 by the Soviet review *Literary Heritage*, in a special volume devoted to Tolstoy.

Strangely enough, however, editors and commentators in many countries failed to notice that one of Gandhi's most interesting letters was missing from the collection of fifty thousand letters received by Tolstoy and carefully preserved in the Leon Tolstoy archives in Moscow.

And yet this letter had undoubtedly reached Yasnaya Polyana (the novelist's country home) and had been read by Tolstoy. A copy preserved in India testifies to its existence, as do Tolstoy's replies when carefully examined. But how did the letter disappear, and what happened to it? For nearly fifty years these questions remained unanswered.

Recently, two staff members of the Yasnaya Polyana Museum, Nicolaï Puzin and Yelena Nasselenko, were examining some old foreign periodicals which Tolstoy had received during his lifetime from all parts of the world. Flipping through the pages of an English magazine of the period, they came upon a Russian translation of one of the articles in the review, made for Tolstoy by his daughter-in-law, O.K. Tolstaya. Underneath it lay the "lost letter". Tolstoy probably left Gandhi's letter there, intending to reply to it. But on the same day he fell ill; the magazine was taken from his study, and the letter lay hidden for nearly fifty years. Thanks to this find, a missing link in the correspondence between two great thinkers has now been filled.

Gandhi wrote to Tolstoy for the first time on October 1, 1909, from London, where he had come to negotiate with the British Government's representatives about the position of Indians in the Transvaal. His first message to Tolstoy was devoted to a description of living conditions of the Indian population.

The great Russian writer was intrigued by this Indian from faraway Transvaal who had written to him, but whom he had never met. "I was greatly touched by the letter from the Hindu in Transvaal", he wrote to his friend V. Vhertkov. On October 8, 1909, he sent Gandhi a friendly reply, expressing his sincere sympathy for "our dear brothers in the Transvaal..."

He also approved Gandhi's intention to distribute among his fellow Indians the famous article, *Letter to a Hindu*, which Tolstoy had written in 1908. "I am very pleased", he wrote, "that my letter should be translated and circulated in an Indian language."

Tolstoy's letter of approval, reaching London at the moment when Gandhi's negotiations had ended in failure, was a source of great satisfaction to Gandhi, and he at once sent a second letter to Yasnaya Polyana, in which he continued his account of the Transvaal Indians' struggle against the local authorities. This second letter is the famous "lost letter" which is reproduced in full alongside.

Tolstoy was ill and did not reply, though he had been interested by Doke's book on Gandhi which had been sent to him at about the same time (1).

The correspondence was resumed five months later, in April 1910, when Gandhi sent Tolstoy a third letter as well as his book written in English, *Indian Home Rule*. "I did the translation from Gujarati myself", Gandhi wrote. "It is strange that the Government of India should have confiscated my book in that language, but that is why I have hastened to publish a translation."

Gandhi asked Tolstoy to read the book and give him an opinion, which, he said would be of the greatest value to him. At the same time, he sent Tolstoy a few copies of the *Letter to a Hindu*, as published and prefaced by Gandhi himself.

Tolstoy, however, was never quite able to carry out his intention of replying to Gandhi's letter in detail. On April 25, 1910, he sent him a short letter thanking him for the books which had been sent.

At that time, the struggle of the Indians in the Transvaal had reached an acute phase. Hundreds of Indian families which had refused to submit to the local administration found themselves ruined and homeless. In order to save the neediest among them, Gandhi organized, on a property offered to him by his friend Kallenback, a self-supporting colony which he called "Tolstoy Farm". Gandhi and Kallenback told Tolstoy of all this in a letter dated August 15, 1910.

Gandhi's new letter, his preface to *Letter to a Hindu*, and especially the book he had sent increased Tolstoy's interest in the fate of the Indian people. He notes in his diary that he spent several days in absorbed reading of *Indian Home Rule* and of Doke's book on Gandhi.

These letters as well as Gandhi's review *Indian Opinion*, which had also been sent to him, were a source of great satisfaction to Tolstoy. "Good news from the Transvaal about a colony of non-resisters", he noted in his diary on September 6. The same day, he dictated a reply which was to be his last letter to Gandhi. Tolstoy wrote it only two months before he left Yasnaya Polyana. It reached Gandhi after much delay—not, in fact, until Tolstoy was on his deathbed, in the Astapovo railway station.

So ended this remarkable correspondence. It stirs us even today. It is like a torch, lighting the path for future generations.

(1) J. Doke, *M. K. Gandhi. An Indian patriot in South Africa.* London, 1909.

STEINBECK AND HEMINGWAY FAVOURITE AUTHORS OF NORWEGIAN YOUTH

STEINBECK and Hemingway are the favourite American novelists among Norwegian youth, according to a survey made recently by an American educator visiting that country on a UNESCO grant.

East of Eden, Steinbeck's allegorical novel of a few years ago, appears as top choice among a group of selected 18 to 19-year-old readers. *The Old Man and the Sea*, Hemingway's most recent major effort, headed the list of the Nobel Prize winner's works currently being read.

The survey—conducted on a UNESCO Regional Cultural Studies Grant—was made by Mildred Wilsey, an Associate Professor of English at Wilson College, in Chambersburg, Pennsylvania. Miss Wilsey made these observations on American writers in a report written upon her return to the United States in May of this year. The six-month grant to Miss Wilsey was made last August for study "in the field of the literary background and literary taste of college-age people in Norway."

Miss Wilsey's work was principally devoted to reading trends, both fiction and non-fiction, in Norwegian literature. On literary tastes in general, however she notes:

"The general feeling is that the level of reading taste for fiction, at least, is down. Books of fact or experience, the world and its personalities, are the preference—not creative writing. The reasons for this are interesting to discuss: fiction may have reached its zenith and be on its way out, or our need to know about world activity has become too pressing for reading of an imaginary sort. There is great interest in the actual world.

"This trend towards the practical in the end may not be practical if it defeats other values.

"The new spread of culture since the war", Miss Wilsey suggests, "has meant that certain refinements of taste have been lost. When the ferment has settled, perhaps new refinement will arise.

"But Norway reads. It has no distractions such as TV. And Norway buys. It has never been much of a country for circulating libraries. The accumulation of one's own library is a growing trend and reaches deep into the country. And there is an increasing sale of English and American books at all levels."

Other American authors whose novels were cited as prominent in the reading habits of Norway's youth were Sinclair Lewis, Pearl Buck and Jack London. Among some of the others noted were Louis Bromfield, Margaret Mitchell, Lloyd Douglas, Erskine Caldwell and Warwick Deeping.

The most widely read Norwegian authors, according to Miss Wilsey's report, are Henrik Ibsen, B. Bjornson, Arne Garborg, Alex Kiellard, Tarjei Vesaas and Knut Hamsun. The outstanding choices in English literature are Shakespeare and Dickens. Among modern authors the following rank high: Aldous Huxley, C.S. Forester, Somerset Maugham, John Galsworthy, A.J. Cronin, Daphne du Maurier and Neville Shute.

In languages other than English and Norwegian, Alexandre Dumas and Victor Hugo (French), Eric-Maria Remarque (German), Leo Tolstoy (Russian) and the Dutchman, Hans Martin, are chiefly read.

As a by-product of her visit to Norway, Miss Wilsey established a list of titles of modern Norwegian literature offering attractive reading to the non-Norwegian reader. This was in fact no digression from the main project of which the underlying purpose was to draw people of different countries closer together through a shared experience in literature.

FORTHCOMING PRICE INCREASE

The Unesco Courier announces with regret that in view of ever-increasing production costs it will no longer be able to avoid a slight increase in price. On and after November 1, 1957, the annual subscription rate will be increased to:

$3.00 10/-stg. 500 frs

and the price per copy will go up to

30 cents 1/-stg. 50 frs

However, subscriptions for 1958 and 1959 will be accepted at the present lower rates provided they are registered before November 1, 1957.

From the Unesco Newsroom...

MAN'S MAJOR CROPS: Wheat continues to be the major crop sown by man and rice the major crop he harvests. In its latest Yearbook of Food and Agricultural Statistics, the Food and Agriculture Organization reports that world production of wheat in 1954 was 151.5 million metric tons from a total area of 135 million hectares. Rice was planted on only 97.4 million hectares but the total yield was 162.2 million tons of paddy (unhusked rice). In third place for 1954 grain production was maize with 137.3 million tons.

■ **COMPOSERS' RADIO ROSTRUM:** *Works by three composers from Sweden were among those recommended by the International Music Council, which has just met in Paris, to be broadcast during the coming season over radio networks in* 12 *countries. The composers are I. Likholm, H. Rosenberg and Carl Birger Blomdahl. Two more works, by Goffredo Petrassi (Italy) and Irving Fine (U.S.A.), were also recommended by the Council. Music representatives of radio stations in* 12 *countries helped to select the works. Under another plan to help works by contemporary composers to cross national boundaries and reach a wider audience, the Council prepared thirteen programmes combining little-known compositions with works by better-known contemporary musicians. The scheme, known as the International Rostrum of Composers, was started by the Council in* 1954. *Each station represented at the meeting agreed to broadcast at least two of the programmes during the* 1957-58 *season.*

NEW AFRICAN HEALTH PLAN: A new plan for health was outlined recently at the first international seminar on public health education in Africa, held in Dakar under the joint auspices of the Government of French West Africa and the World Health Organization. Some 60 participants and observers from most countries and territories of Africa south of the Sahara took part in the discussions. The aim of health education in African countries, participants agreed, should be to show people in rural areas how to attain better living conditions by their own efforts. Films, filmstrips, exhibitions, leaflets, posters, etc., were valuable tools for the educator, but they must be adapted to local conditions and resources. The immediate day-to-day interests of a given community and the degree of literacy must be taken into account in preparing material. Participants stressed the role of the press, radio and cinema in diffusing basic scientific knowledge to the public.

■ **INDONESIA'S SCHOOL DRIVE:** *The number of schools and pupils in Indonesia is fast increasing as a result of the country's tremendous effort in education, reports a Norwegian specialist returning from a* UNESCO *mission there. Dr. Asbjorn Overäs, assigned in July* 1956 *by* UNESCO *to work with the Indonesian Ministry of Education in the expansion of secondary schooling, says there are now* 400,000 *pupils in Indonesia's junior high schools compared with about* 20,000 *in* 1950. *Senior high schools, of which there are now* 546, *are increasing their enrolments at the rate of about* 10,000 *pupils a year, he said. The immensity of the secondary and primary education task which Indonesia is tackling, is indicated, he noted, by the fact that the country has about* 13,000,000 *children of primary school age—*6 *to* 12 *years—but only something like* 60 *per cent of them have as yet the opportunity to attend school.*

UNESCO WARNING OF CRISIS IN EDUCATION FOR ARAB REFUGEES

A warning of the serious crisis developing in the education of Palestine Arab refugees was given recently to the Unesco Executive Board meeting in Paris. "The magnitude of the crisis is not yet know", Dr. Luther H. Evans, Director-General of Unesco, told the Board members, "but money is fast running out and there is not nearly enough to continue in the current school year. Curtailment of Unesco's programme in this area has already begun. The building of schools has stopped. Very soon, technical and vocational training will have to be suspended.

"Unless the financial situation improves, we shall have to start closing primary and secondary schools. This is the grave situation which faces the unfortunate children whose education has been placed in our care."

Emergency educational assistance for Arab refugees has formed an important part of Unesco's programme for a number of years. This aid is given in collaboration with Unrwa (the United Nations Relief and Works Agency) which is responsible for the feeding, housing, health and rehabilitation of some 900,000 refugees. Out of Unrwa's budget, $7,300,000 is earmarked for education. Technical responsibility for the education programme, which provides primary schooling for 150,000 children, secondary education for 25,000 and fundamental education for about 44,000 persons, rests with Unesco.

Unrwa is financed by voluntary contributions, mainly from Governments with the USA and the UK contributing roughly 85 per cent of the total. The rest comes from some 45 states. Unrwa is faced with a serious shortage of funds because contributions have not been big enough nor paid promptly enough to enable it to carry on. The Director of Unrwa, Mr. Henry W. Labouisse who is expected shortly in Paris where he will confer with Unesco's Director-General, has announced his intention of going to the USA and Canada to confer with government and UN officials on the problem.

Already, Unrwa's Director has ordered stoppage of construction activities, a decision which affects the education programme because it halts building of new classrooms and vocational training centres.

Some 200 new classrooms are needed each year because the refugee population is increasing. The stop on building will mean that some of the pupils will be taught in tents—a return to the situation of five years ago. The 1957 programme included $2,250,000 for building vocational training centres. These are not likely now to be completed.

Other steps which may have to be taken if Unrwa's funds are not increased in the next few weeks are partial curtailment of the fundamental education programme and the temporary closing of teacher-training colleges and also, as Dr. Evans warned Unesco's Executive Board, the closing of primary and secondary schools.

NO PASSPORTS NEEDED: European travel formalities have been further eased by a recently announced agreement waiving the need for passports between the German Federal Republic and three other countries—Belgium, Luxembourg and Switzerland. German and Swiss nationals may now cross each other's frontiers on the presentation of a standard identity card for a period of three months and providing they are not seeking employment.

■ **RESTORING WORKS OF ART:** *An International Centre for the Study of the Preservation and Restoration of Cultural Property is to be set up in Rome following the signing of an agreement recently between the Italian Government and* UNESCO *regarding its installation and legal status.* UNESCO'S *last General Conference approved the creation of the Centre which will collect, study and circulate information on scientific and technical problems in the preservation and restoration of works of art. It will also co-ordinate, encourage and carry out research in this field, train research workers and technicians and help to improve standards of restoration work.*

'GRASS-ROOTS' AMBASSADORS: During the past few years, more than 1,200 young farmers from the United States, Latin America, Europe, the Middle and Far East have spent from four to six months abroad learning a different way of life under the International Farm Youth Exchange (IFYE) programme. The idea was born after World War II when the British Ambassador to the United States visited an Iowa farm. The following year six British farmers were invited to the U.S.A. and the experiment proved so successful that it was decided to extend the project to more than forty countries.

Letters to the Editor

Sir,

I should like to tell you how much I enjoy THE UNESCO COURIER. You offer your readers very interesting facts and I am glad that you often write about people in Asia and Africa. I think that thanks to modern transport the world is now very small.

I am an old woman (80 years) but I am very interested in the events of the whole world. At the moment I have the atom very much in my thoughts and I think atomic radiation is very dangerous.

One thing I cannot understand. In your issue of April 1957 you have written about radio-active conservation. How is it possible that we shall eat food which has been exposed to radiation when this is so terribly dangerous for men and genes?

Just one more thing. I have many friends and relations in Germany, and I am sorry that THE COURIER is not translated into the German language.

Lotte Gerson
Orebro, Sweden

Ed. note: *The radiation to which the food is exposed is sufficient to kill the spoilage bacteria which cause food to deteriorate. However under the effect of the radiation the food does not become radio-active and is therefore safe to eat, the radiation having passed through it without leaving any trace.*

Sir,

I think both the content and presentation of THE UNESCO COURIER are admirable, and especially (and this is an important point) the average width of its columns.

It might interest you to know (for this concerns your distribution) that it was not through one of my fellow professors that I came across your magazine, but quite by chance among a pile of publications in a hairdresser's shop—a democratic meeting place *par excellence*.

Claude Klein
Asnières, France

Sir,

In both its presentation and contents, THE UNESCO COURIER has far too much magazine style for my liking. I don't care much for the confused appearance produced by the lay-out of the articles; I would like to see much more clarity, even to the extent of giving it almost a textbook appearance. The articles are of mixed quality; the publication has an American style; it aims more at sensationalism than exactitude (some statements seemed to me to be erroneous). Professionally I get no benefit from it and, in the field of strengthening international relations, THE UNESCO COURIER teaches me nothing whatever.

I don't deny that the publication has some qualities, and certain articles (or parts of them) have interested me greatly. I am sure, too, that most readers must be satisfied with it. But in my case, with my profession, my social position and my family circle (I am the only member of my family to read THE UNESCO COURIER) I don't find in it the things I would wish to see.

Don't think that this is a general condemnation of the publication; I think that in its present form it can still satisfy many people.

R. Vimay
Versailles, France

Sir,

As a subscriber to THE UNESCO COURIER for several years I can say I appreciate it more and more. It brings all kinds of subjects within everyone's comprehension. It enables those who have neither the time nor the facilities to plunge into an extensive documentation to keep abreast of things culturally. I never get tired of thumbing through the January issue ("Rare Treasures of World Art") and if it wasn't for the really modest subscription price I would say, let us have many more issues like this. Texts like "Walkabout in Australia's Bush" are suitable for children. I know it will be enthusiastically read by my young audience. THE UNESCO COURIER is, for teachers like myself, an enrichment, a relaxation and a colleague.

P. Orsini
Rhône, France

Sir,

May I suggest you devote a whole number exclusively to the problems of the Middle East, especially of Israel and its neighbours.

There is so much muddled thinking in the heads of most people, and the problems are usually discussed only from our own (British) point of view.

Your article about the Palestinian refugees (No 7, 1955; U.S. Oct.) was a good beginning.

Dr. G. Fielding
Nottingham, England

Sir,

Would it be possible to devote one of your future issues to the subject of Moslems and Arabs, their history and their future.

Pastor Raymond Petat
Les Andelys, France

Sir,

In renewing my subscription, I should like to say how much I like your magazine, in general, particularly the issues devoted to a single theme: Buddhism, for example. Won't you do the same for the Arab world, the Japanese and the Jews...?

Pierre Chotard
Isserpent, France

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Above, a drawing for "Faust" done by Goethe

Allgaier, Office General des Eoliennes

WINDMILL WITH A NEW LOOK

The ever-increasing rate at which basic fuels like coal and oil are being used up has sparked scientific research into new applications of an old source of energy—wind power. Modern windmills (like three bladed type shown here) reflect improv knowledge in aerodynamics now applied by countries see ing to use wind as an auxiliary power source. (See page